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TEACHERS COLLEGE RECORD

VOL. XXI JANUARY, 1920 NO. 1

CORRECTION FORMULAE FOR ADDITION TESTS

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The score of an individual in a mental test is merely a partial record of what the individual did with the test material under the test conditions. No score indicates the totality of performance. No test really measures ability. Under favorable conditions, it is possible (within limits) to make from scores more or less reliable inferences in regard to ability, but it cannot be too greatly emphasized that a score in any test is a resultant of the interaction of many factors of which ability is but one. As long as conditions are constant, scores are constant; but the slightest variation in any factor will produce a corresponding variation in score. If the factor affected is a vital one, a very slight change in the conditions may produce a large fluctuation in score. In mental tests it is probable that the condition factors are ordinarily more subject to variation than the ability factors. Those who use mental tests, therefore, should realize that a knowledge of the conditions under which a test is given, and of the manner in which the subject responds, is as essential to a correct interpretation of the results as is a knowledge of the test material.

Some of the statements above are easy to prove. Thus, time, generally recognized as a factor in all human action, is easily seen to play a part in determining scores. The longer the time interval, other things being equal, the greater the amount of work done. That is, if a child can complete 12 addition examples of a certain type in 8 minutes, his score will be 15 examples in 10

minutes if there are no changes in the other factors operating. To compare a score of 12 examples with a score of 15 examples when nothing is known about the relation of the time factors in the two tests is to run the risk of making wrong inferences; for 15 examples may indicate a greater, the same, or a lesser degree of ability than 12 examples, depending upon the relative size of the two time intervals. Even in difficulty tests, such as Trabue's Language Scales, where the time interval is made so long as not to be significant, it is well to remember that two scores, equal in magnitude but achieved in different times, represent different degrees of skill and may be considered equal only because for the purposes for which the tests are used differences in skill are negligible.

This paper is not written, however, to call attention to the gross operation of such evident factors as time, incentive, fatigue, etc., but to the action of more obscure factors to which little attention is usually paid. For instance in Fig. 1 is shown a test which is commonly called a test of knowledge of the addition

SPEED TEST - ADDITION COMBINATIONS

Instructions: Under each column write the sum of the column. That is, under 8 and 1, write 9. Do as many as you possibly can in the time allowed, but be sure the answers you write are correct. Skip any you don't know.

8	9	7	8	2	1	3	6	0	3	1	7	9	3	2
1	9	6	0	5	5	8	9	7	2	3	7	6	0	4
1	6	9	0	4	1	8	6	9	4	1	2	5	6	7
2	6	5	1	2	1	3	5	0	3	4	9	8	0	2
3	4	7	0	3	1	4	8	0	2	1	8	6	0	5
1	6	9	8	5	6	7	9	5	7	9	4	7	2	4

FIG. 1

combinations. It has been widely used.[1] The score is the number of answers written in one minute.[2] Two individuals, G and H, measured simultaneously with this test under identical ex-

[1] See New York Survey and the Cleveland Survey.

[2] Or the number of correct answers, the rate and accuracy, etc.

ternal conditions made scores of 80 and 64 answers per minute respectively (median of three trials). The two individuals were also measured at the same time with the test shown in Fig. 2, a test of ability to perceive and copy figures. The two tests are identical except for the addition element. That is, the general procedure in taking the two tests is identical; the same size and style of type are used in both, and, finally, the arrangement of the

SPEED TEST - COPYING FIGURES

Instructions: Copy as many of the following figures as you possibly can in the time allowed, making sure that each figure is legible.

9 18 13 8 7 6 11 16 7 5 4 14 15 3 6

3 12 14 1 6 6 11 11 9 7 5 11 13 6 9

4 10 16 8 8 7 11 17 5 9 10 12 13 2 9

FIG. 2

figures on the test sheets is such that the hand of the subject must pass over the same amount of space, and must write the same figures in making the same score. The sole difference is that in one test the answers must be found by addition, while in the other they are given and need only be copied. If, in the first test, the part of the score which stands for pure addition is represented by A, the part which stands for the motor and other abilities involved in taking the test by M, and the total score by S,

$$S_1 = A + M$$
$$S_2 = M$$

Individual G above made a score in Test 2 of 80 answers per minute. That is, she wrote the same number of answers per minute in Test 2 as she did in Test 1. Since the elements M,

measured by Test 2, are thus proved adequate to account for the entire score in Test 1, it is pertinent to ask whether or not the score of individual G measures in any way her addition ability. The answer (as proved by other tests) is that it does not. For this individual Test 1 is as much a test of rate of activity in copying figures as is Test 2.

Thus it turns out that a test designed as a measure of ability in addition does not measure the addition ability of the individual at all. Similarly, if many tests are studied from this point of view, the scores made will be found to be determined mainly by factors other than those indicated by the test label. For instance, scores in the Courtis Speed Reasoning Test (Series A) do not measure reasoning ability in arithmetic, scores in tests of reading by reproduction[3] do not measure primarily reading ability (except possibly in the early grades), scores in timed opposites tests do not measure primarily the ability to think the opposites of words, scores in the Kansas Silent Reading Test do not measure primarily ability to read silently, and so on. This does not mean that these tests have no value; simply that there is often little connection between the test label and the ability which plays the major part in determining the score in the test. In the future, makers of tests will need to give more attention to the determination of what a test measures than has been given in the past.

If the question is asked, "How does it happen that adding ability is not a factor in determining the score in Test 1 above," the answer is that adding ability is eliminated by the action of another factor, the ability to look ahead and add while still writing the answer to the last example. That is, individual G adds much faster than she can write and has developed the ability to control the writing function with part of her attention, while with the rest she is adding. (This telescoping or simultaneous carrying on of two activities will hereafter be called the "overlapping" of the two functions.) Her score in both Test 1 and Test 2 is simply the maximum number of figures she can write in one minute.

Individual H made a score of 96 answers per minute in Test 2, 32 answers more than in Test 1. Is her addition score deter-

[3] As used by Courtis, Starch, Brown, Gray, and others.

mined mainly by her adding ability or mainly by the motor and other abilities? It is evident that whether there is overlapping or not, time is required to write answers. This suggests the desirability of a formula which will correct the score in Test 1, by eliminating the motor elements and showing the rate at which the addition alone proceeds. On the assumption (1) that scores in Tests 1 and 2 are determined by the same elements except adding ability, (2) that there is no overlapping, and (3) that conditions in regard to effort, fatigue, etc., are constant,[4]

$$A \text{ (Pure Addition)} = S + \frac{S^2}{M - S}$$

That is, *if* the assumptions hold for the scores of individual H, her rate for addition alone is 192 answers per minute.

TESTS FOR MEASUREMENT OF OVERLAPPING

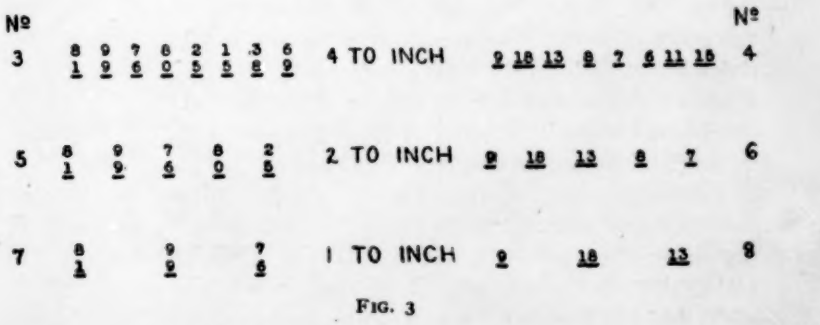

FIG. 3

In the effort to determine whether or not the assumptions on which the formula is based are valid, a number of related tests were given. These are shown in Fig. 3. Tests 3 and 4 are the

[4] This formula was derived as follows: M represents a score determined by one less positive * factor than S. Therefore M > S. (60 ÷ M) = seconds required to write each answer in copying test. (60 S ÷ M) = seconds required to write S answers in adding test. 60 − (60 S ÷ M) or (60 M − 60 S) ÷ M = seconds taken to add S examples in adding test. SM ÷ (60 M − 60 S) = examples added per second. SM ÷ (M − S) or S (M − S + S) ÷ M − S = examples added per minute. If $d = M - S$, the formula may be written, $A = (S^2 + Sd) \div (d)$ or $S + \frac{S^2}{d}$ or $S + \frac{S^2}{M - S}$

This formula is perfectly general and applies to any two tests for which the assumptions hold, as timed opposites tests, reasoning tests, reading tests, etc. The corrected score is most easily computed by finding the product of the two scores, S and M, and dividing by their difference, (M − S).

* By positive is meant a factor whose operation will increase the time required to do a given amount of work. Incentive, effort, etc., are negative factors which might operate to make M < S.

same as Tests 1 and 2, except that the examples are spaced regularly four to the inch. Tests 5 and 6 are the same examples spaced two to the inch, and Tests 7 and 8 are spaced one to the inch. Tests 7 and 8 were also given under a variety of conditions in the attempt to eliminate overlapping. For instance, in one trial the subjects were asked not to look ahead, in another they worked the examples in columns, downward, from top to bottom of the page instead of from left to right, the usual procedure. In still another trial, they worked from right to left, thus breaking up their regular habit of eye movements. In a final test, Tests 3 and 4 were repeated as at first.

The adding to be done in all these tests is identical. Such differences as can be noted are in spacing, procedure, and manner of work; possibly also in more obscure psychological and emotional reactions. Therefore, if the assumptions on which the correction formula is based are valid, the pure addition (corrected) scores from the various tests should be identical. If variations occur, it is proof that other factors than adding ability influence the score of a test. Therefore, whether or not the formula derived above yields valid scores for adding ability, it will serve as a means of investigating the nature of the mental activity which determines scores in a series of related tests. This will probably be its chief permanent value.

The obtained and corrected scores of four adult subjects, tested simultaneously, are given in Table I. As these tests were part of the series of experiments which led to the derivation of the formula, the data are unreliable in that conditions in regard to effort and fatigue were not sufficiently standardized. Since, however, a crucial experiment involves the careful construction of suitable tests and standardization of testing conditions, all of which is sure to take much time, the data obtained are published for their suggestive value.

The table reveals a number of interesting and significant facts. For individuals J and B, it is quite probable that their relative abilities in addition are much more nearly in the ratio of 420 to 670 than in the ratio of 90 to 93, the scores in the initial test, or of 87 to 99, the scores in the final test. The results show consistently that individual B's score in the addition test rises as his ability to write more rapidly rises, while this is not true of individual J.

TABLE I

OBTAINED AND CORRECTED SCORES OF FOUR ADULTS IN THE TESTS SHOWN IN FIG. 3. GIVEN UNDER A VARIETY OF CONDITIONS. SCORES = ANSWERS WRITTEN IN ONE MINUTE

Tests: Examples Inches	Testing Conditions	Obtained Scores[1] Individuals										Corrected Scores Individuals Average				
		J		B		H		P		Average[2]						
		Add	Copy	Add	Copy	Add	Copy	Add	Copy	Add	Copy	J	B	H	P	
4	Normal	90	102	93	108	96	108	99	108	94	105	765	670	864	1188	897
2	Normal	84	105	93	105	93	111	102	108	94	105	420	814	574	1836	897
1	Normal	78	96	90	102	93	113	93	105	87.5	103	416	765	525	814	581
1	Trying not to look ahead	60	63	66	72	66	99	60	62	63	75	1260	792	198	1860	398
1	Adding downward	45	60	69	78	72	96	60	66	67	75	180	598	288	660	628
1	Adding backward	54	60	72	81	60	87	72	57	64	71	540	648	193		649
4	Normal	87	111	99	117	114	128	113	125	104	120	402	643	1042	1175	780
											Median	420	670	525	1181	649

[1] Based on the median of three 20-second trials.
[2] Based on all the scores obtained, not the median values given in the table.

In the case of both, a tendency to uniformity of corrected scores is apparent. It is probable, therefore, that with better tests and better standardization of testing conditions, it would be possible to secure for each of these two an approximately uniform score for pure addition by means of a series of related tests. For such individuals the assumptions of the correction formula are valid.

Individual H, on the other hand, is peculiar in her behavior. The attempt to eliminate overlapping by having her add downwards, backwards, etc., apparently introduces mental or emotional disturbances which react upon the scores. From other tests it is known that H is a phlegmatic individual who ordinarily works far below her maximum. The change in habits therefore probably affected the effort factor. The irregularities in her score would then represent fluctuations in effort due to the necessity for making adjustments to new conditions. Individual H thus illustrates the use of the correction formula as a means of investigating changes in response to a series of related tests.

Individual P presents an unanalyzed difficulty. It seems improbable that her real addition ability can be as high as is indicated by the scores obtained, yet the only other explanation would be a large amount of overlapping. Two of the tests tend to support this conclusion but the third attempt to eliminate overlapping broke down completely, owing to a very marked fall in score in the copying test. In other words, the scores merely show that individual P probably has a large amount of overlapping and was inadequately measured under the given condition.

The corrected results based upon the average of all the scores obtained in each test show a rather greater tendency to uniformity than the corrected individual scores, as was to be expected. Averaging reduces largely the play of chance factors which distort the individual scores. It is probable that with better tests and better testing conditions, nearly perfect uniformity may be expected in the corrected scores of large groups of individuals taking a series of related tests.

The scores of individual J indicate a considerable amount of overlapping in the first test, but the uniformity of score in Tests 2 and 3 probably means that the size of the spaces between examples in these tests exceeded his eye-span. This suggests that by

using a series of tests with carefully graduated spacings, the series as a whole could be used to measure eye-span. We thus have the interesting situation of a test, originally prepared as a measure of knowledge of the addition combinations, proving to be mainly a measure of rate of copying figures and capable of being so used that it measures eye-span.

Reference has been made again and again to the effects of variations in effort. The operation of this factor is easily revealed by giving a test under conditions which tend to call out maximum effort. For instance in Fig. 4 will be found a graph of the scores made by a single individual in 73 different trials of a single test.[5] Trials 1–3 were given under identical conditions but at the beginning and end of an hour of adding. Trials 4, 5, and 6 were given three months later. Trial 4 was given under exactly the same conditions as trials 1–3 but the individual's ideas of effort and possibly his habit of work had been affected by the tests and discussions in which he had participated in the meantime. In trial 5 accuracy was emphasized; in trial 6, speed. Trials 7–19 were one minute tests under slightly changed conditions. Trials 20 to 73 were given at one time. The subject worked on one example during the whole of the time interval until the examiner said "Next." At first the time interval was so long (60 seconds) that the subject had opportunity to add the example and check it twice before passing to the next. The time interval was gradually shortened and soon the subject had time only to add the example once. As the time interval continued to decrease, failure to complete the examples acted as a spur to speed and the subject put forth greater and greater effort. Finally the time interval became so short (12 seconds) that in spite of the utmost effort of which he was capable the subject was unable to complete more than part of an example.

For convenience in making comparisons, all results, whatever the time interval, have been reduced to a common basis, the rate of work or the number of examples done in one minute.

The median rate of work for the 73 trials is 2.3 examples per minute; this rate is indicated by the dotted line in the figure. The median deviation is .29 of an example. Inaccuracy is shown by small circles.

[5] See Fig. 5.

The graph makes very plain the fluctuation in effort. When a person whose median rate is 2.3 examples a minute, concentrates on his task he may complete 3.2 examples correctly in one minute (trial 58). When he is disturbed by fatigue and other conditions, he may complete but 1.3 examples in one minute (trial

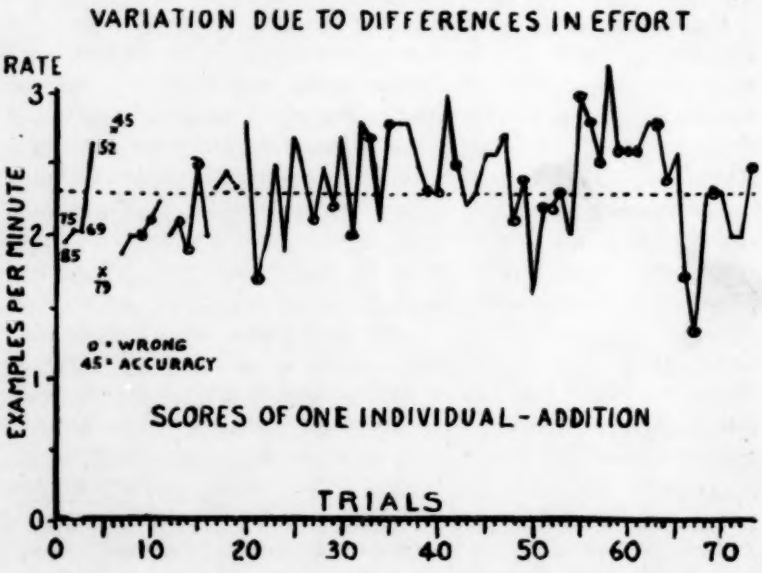

FIG. 4

67), and these incorrectly. Such variations are caused mainly by factors more or less under voluntary control, and are not due to changes in ability to add. It is not enough, therefore, to know a person's rate, or accuracy as corrected by the formula above. To be comparable, scores must be secured under conditions which insure some comparable degree of effort. The remainder of this article will be devoted to a discussion of experiments having for their purpose the derivation of a second correction formula which will aid in reducing scores in performance tests to a standard condition of effort.

The danger in drawing inferences from scores without considering the conditions under which they were secured is easily illustrated. A group of adults were measured for their ability in

addition with the test shown in Fig. 5, under standard conditions. Then the test was immediately repeated but the instructions were changed. Accuracy was emphasized. The subjects were told to work each example at least twice and, if the two answers did not agree, to repeat the addition a third or a fourth time until they were certain that the answer was correct. The various answers obtained were recorded on the paper so that it was

TABLE II

INDIVIDUAL RECORDS IN ADDITION* SERIES B

		A	*B*	*C*
Trial 1	Standard	4–3	15–9	11–10
Trial 2	Accuracy	4–4	4–4	4–4
Trial 3	Speed 17.8	0%	25%	5%
		D	*E*	*F*
Trial 1	Standard	16–11	16–14	24–8
Trial 2	Accuracy	6–6	6–6	6–6
Trial 3	Speed 17.8	45	65	55

*Read as follows: In the first trial A tried four examples and had three right; in the second trial he tried four and had four right; in the third trial, he tried 17.8 examples but his accuracy was 0 per cent.

possible to tell how many times each example was actually worked. This test was followed by a third and a fourth trial, emphasizing speed, one at a rate of 27 seconds per example, the other at a rate of 22 seconds per example. Three scores were obtained for each test, examples attempted, examples right, and accuracy or the per cent the examples right were of those attempted.

The scores of six individuals are shown in Table II. Individuals differing widely in score in the first trial made identical scores in the second trial. Yet there was no change of ability involved, merely change in manner of work. Individual A in the first test chose to work cautiously, checking each example, while B and F worked rapidly and inaccurately. Both B and F were capable of adopting A's method as was proved by the second test in which

Measure the efficiency of the entire school, not the individual ability of the few.

COURTIS STANDARD RESEARCH TESTS
Arithmetic. Test No. 1. Addition.
Series B Form 3

SCORE	
No. Attempted	
No. Right	

You will be given eight minutes to find the answers to as many of these addition examples as possible. Write the answers on this paper directly underneath the examples. You are not expected to be able to do them all. You will be marked for both speed and accuracy, but it is more important to have your answers right than to try a great many examples.

339	799	952	937	489	789	872	309
276	584	397	274	877	555	657	964
977	135	535	468	482	342	329	673
861	647	669	836	645	908	794	437
757	624	386	323	761	471	563	338
698	512	974	485	598	896	128	591
269	146	458	357	352	123	856	636
136	699	702	925	431	637	962	704
322	109	397	819	367	254	287	119

125	473	782	485	781	602	761	656
767	318	403	539	945	770	978	282
632	272	555	285	574	358	820	878
306	857	688	147	497	625	747	390
290	425	349	875	926	348	504	614
949	693	814	387	832	584	939	563
883	469	397	126	668	992	485	207
418	954	966	604	303	645	268	791
574	346	329	418	729	377	356	138

595	399	907	735	246	356	250	845
303	275	293	354	357	409	707	372
587	583	468	512	400	970	442	689
281	777	272	695	579	648	991	835
776	841	753	849	782	593	697	426
642	656	836	402	691	861	754	745
624	924	969	987	968	938	836	813
958	365	637	298	834	223	788	197
139	463	293	128	125	555	177	686

Name _____ (BOY OR GIRL), Age last birthday _____

School _____ Grade _____ Room _____

City _____ State _____ Date _____

FIG. 5

A and B made exactly the same score, and F a score only 2 examples larger. That is, on the basis of the first test individuals A, B, and C are to be judged of very different ability, while on the basis of scores in the second test they are of equal ability. Very evidently a person's ability cannot be inferred with certainty from the scores obtained in a single test.

In an attempt to explore the whole range of an individual's possibilities in performance, the same test was given to an adult 18 times under varying time conditions. When the time interval was 40 or more seconds every example was right because there was time to add and check. That is, the accuracy was 100 per cent. As the time interval decreased more and more, examples were either unfinished or wrong, until finally a time limit was reached so short that no single example was completed correctly. From this point on the accuracy was always 0 per cent.

A graph of these and similar results (Fig. 6) brings to light a number of important points, the most interesting of which is perhaps the fact that there exists for each individual a region of variable performance, only within which are scores significant. Two individuals measured under conditions which do not bring their scores within the limits of this region, may achieve the same result, although they are of very different degrees of ability.

A second important point is that even in the region of variable performance, widely differing scores may represent the same ability. Thus for the individual whose scores are shown in the graph, scores of 16 examples tried, 16 right, 20 tried, 17 right, 30 tried, 9 right, 40 tried, 0 right, represent precisely the same ability. It is for this reason that a single score of examples attempted, or examples right, or accuracy, is not a sufficient description of a person's performance. Rate of work and accuracy together describe a performance satisfactorily, but when based on a single trial of a test, or on many trials under one set of conditions, they do not show at what level of his curve a person is working.

A third important fact is that at any one accuracy level perfect consistency of performance is not to be expected. Mental action is such a complex affair that all the conditions in any test are never precisely the same (except by chance). For each time interval repeated tests will show a small range of variation so

that a person's ability should be thought of as a zone of ability (represented by the dotted lines in the figure). The central line would thus represent the median performance in a series of tests at each time interval, the play of chance factors being eliminated by the method of averaging.

A fourth point of importance is that at the upper end, and, to some degree at the lower end of the zone, results are much more

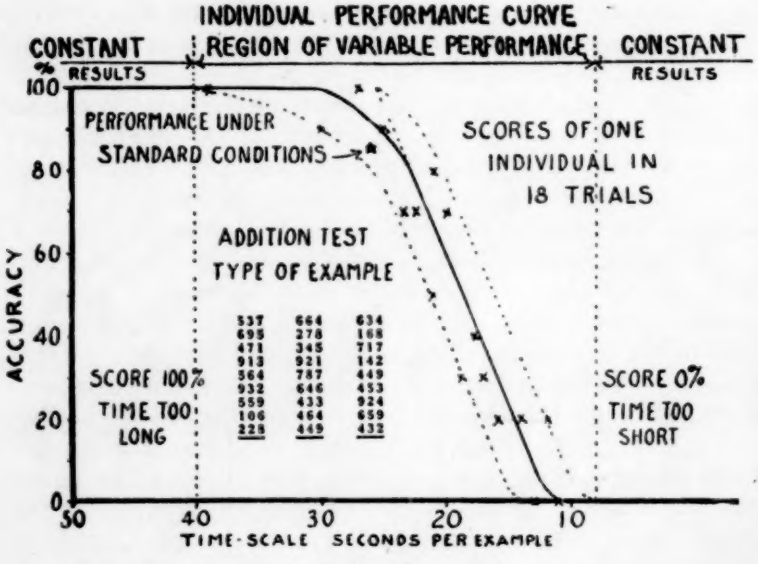

FIG. 6

variable than near the center. From the level of 85 per cent accuracy up, accuracy is apparently less dependent upon speed and more dependent upon other factors. In the figure, a dotted line shows that 100 per cent accuracy would be obtained at a speed of 26 seconds per example were the general slope of the curve to continue unchanged. Actually, a rate of 30 seconds per example is a closer approximation to the true value.

At the lower end of the curve, the consciousness of the approach to one's limit apparently serves to call out some remaining reserve of energy so that the curve is again distorted from a straight line. Within the limits of 15 per cent to 85 per cent accuracy,

however, this individual's ability varies in a consistent manner and as the rate of work increases, the accuracy of work decreases.

In order to determine whether or not the relation between rate and accuracy shown in Fig. 6 for one individual is true in general, a small number of individuals were tested repeatedly under varying conditions. Also the scores of the group of adults already referred to, tested under a variety of conditions, were studied from this point of view. Altogether adequate data were secured from 21 individuals. The curves of a selected number of these cases are shown in Fig. 7. For several, results of tests on

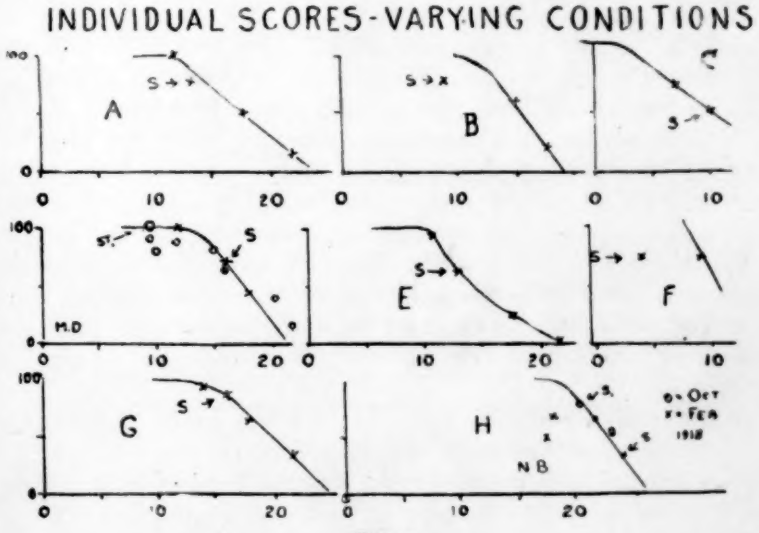

FIG. 7

other days are also included. While it is apparent that the conclusions hold for many individuals, it is also true that exceptions and variations of several kinds occur.

For instance, the slant of the various curves varies greatly, and in one case (E) the curve is concave instead of convex. Further experimentation will be necessary to explain these variations. In general, however, the method of measuring an individual by a series of tests under varying conditions will serve to reveal whatever peculiar characteristic an individual curve may have.

Attention is called to the fact that when the tests were given under standard conditions (indicated by S and an arrow), the various individuals responded by working at different accuracy levels. Thus A worked at about 90 per cent accuracy level. B also worked at this level, but checked his examples, greatly reducing his rate. Individual C chose to work at his 50 per cent level, while individuals D and H, for whom records on two different days are available, worked on one day at one level and on another day at a different level. Under the circumstances, it is apparent that comparisons of score with score are not valid unless both are obtained at the same accuracy level and under similar conditions.

Two important conclusions follow. The first is that if any accuracy level is set up arbitrarily as a standard, it is possible to define ability less ambiguously than heretofore. Thus, choosing 100 per cent as standard accuracy, ability in addition might be defined as the maximum rate at which a person can work with 100 per cent accuracy. In this investigation 75 per cent was selected as standard accuracy because the median eighth grade accuracy under standard conditions is about 75 per cent. For pedagogical reasons, however, it is probably best to emphasize 100 per cent as the standard accuracy and the authors recommend that ability in addition be defined as above.

The second conclusion is that in the future use of all rate tests, to secure unambiguous results, it will be necessary to give at least two trials of the test under varying conditions and from the scores secured to compute by means of a correction formula the score under standard conditions. The form of the performance curve makes the derivation of the necessary correction formula a simple matter.

In Fig. 8, let the cross marks on the curve indicate the scores from two trials of an addition test under varying conditions. The upper cross represents a rate score of 9 examples attempted in 8 minutes and an accuracy score of 80 per cent (or generalized, R_1, Ac_1); the lower cross marks a score of 18 examples attempted in 8 minutes and an accuracy score of 30 per cent (R_2, Ac_2). From the upper cross mark a line is drawn parallel to the accuracy axis, and from the lower crossmark, a line parallel to the rate axis.

These lines form with the ability line a right triangle. The lengths of the two legs of the triangle are known. Its base is 18−9 (or R_2-R_1, or more simply, the difference in the two rates, D_r), while the altitude is 80 per cent−30 per cent (or Ac_1-Ac_2 or more simply the difference of the accuracies, D_{ac}). If now a perpendicular is drawn at the point in the accuracy line which represents the accuracy chosen as standard (whether that point

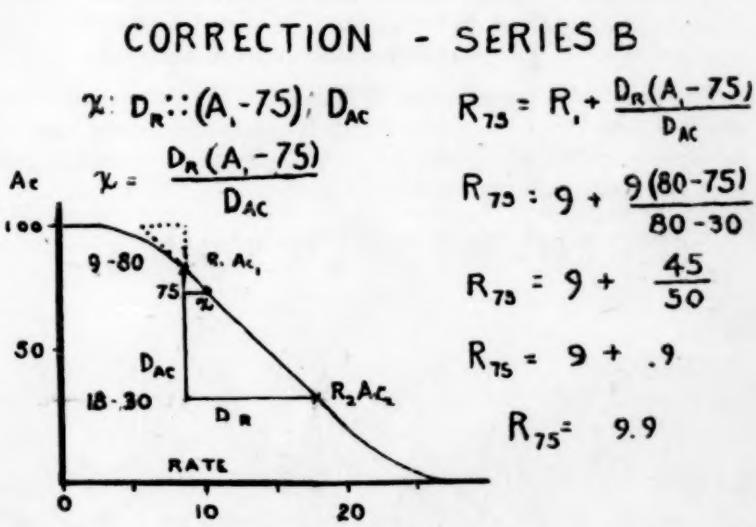

FIG. 8

falls within the side of the triangle, as in the figure where 75 per cent represents standard accuracy, or in the side of the triangle extended, as shown by the dotted lines for 100 per cent accuracy) a right triangle is formed similar to the first. The legs of this small triangle are 80−75 (or Ac_1− Standard accuracy, or A_1-A_s), and x or the unknown increment of rate. If the small triangle is exterior to the large one, its sides are, of course, negative in value. The rate at standard accuracy is then the initial rate plus the rate increment. That is, if two measurements of an individual's rate and accuracy of addition are available, the two observed accuracies being within the limits of 15 per cent

to 85 per cent the rate at any degree of accuracy chosen as standard may be computed by the formula,

$$R_{stan} = R_1 + \frac{D_r\,(A_1 - \text{Stan. Ac})}{D_{ac}}$$

in which

R_{stan} = standard rate
R_1 = lowest observed rate
D_r = difference in the two observed rates
A_1 = accuracy at lowest observed rate
Stan. Ac = accuracy adopted as standard
D_{ac} = difference of observed accuracies

In the figure the computation is completed for the specific case and it is found that the rate at which the individual must work to have an accuracy of 75 per cent is 9.9 examples. Had 100 per cent been taken as the standard accuracy, the rate would have

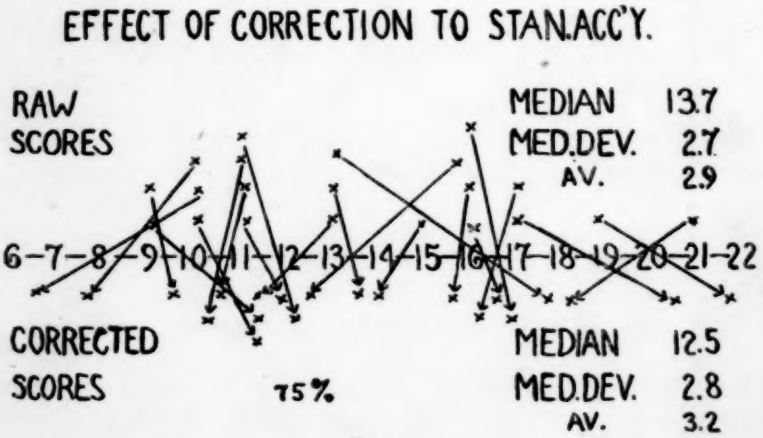

FIG. 9

been 5.4 examples. That is, for this individual the scores of 5.4 examples, 100 per cent accuracy, 9.0 examples, 80 per cent accuracy, 9.9 examples, 75 per cent accuracy, and 18.0, 30 per cent accuracy, represent exactly the same ability, and if comparison is to be made of the ability of this individual with that of some other individual the comparison *to be valid* must be made of accuracy scores at a standard rate, or of rate scores at a standard accuracy.

A marked characteristic of all group measurements is the wide range of ability always found within the group. To determine whether or not this range would be increased or decreased by correction to standard accuracy, the scores of the 21 adults for whom adequate data were secured were corrected to 75 per cent accuracy, and the rank order of each individual in each type of score was found. (Table III). A graphic representation of the effects of the correction to 75 per cent accuracy is given in Fig. 9.

TABLE III

COMPARISON OF RATE SCORES UNDER DIFFERENT CONDITIONS

	SCORES		RANK	
Individual	*Observed Rate*	*Corrected Rate*	*Observed Rate*	*Corrected Rate*
1	9	9.7	1.5	3
2	9	10.9	1.5	6
3	10	6.4	4.	1
4	10	7.9	4.	2
5	10	11.4	4.	7
6	11	10.5	7.5	4
7	11	10.7	7.5	5
8	11	11.6	7.5	9
9	11	12.2	7.5	10
10	13	11.4	10.5	8
11	13	13.6	10.5	12
12	14	17.8	12.	18
13	15	14.0	13.	13
14	16	12.5	15.5	11
15	16	15.7	15.5	14
16	16	16.8	15.5	16
17	16	17.0	15.5	17
18	17	16.2	18.5	15
19	17	20.5	18.5	20
20	19	21.8	20.	21
21	21	18.4	21.	19
Median	13.7	12.5		
Med. Dev.	2.7	2.8		
Av. Dev.	2.9	3.2		

At all levels of ability there were some individuals who chose to work so rapidly that their work was below standard accuracy. Consequently the correction decreased their rates of work (shown by arrows slanting toward the low end of the scale). On the other hand, other individuals worked so carefully that their accuracies were above standard and correction to standard accuracy increased their rates (shown by arrows pointing toward the high end of the scale). As many of those of low ability responded to the test situation by hurrying and as several of those of high ability worked carefully and accurately, the effect of correction to standard accuracy is to increase the total range of the scores of the group a small amount. The median rate is lowered slightly, but the median and average deviation were increased. It is probable that, in general, correction of scores to standard accuracy will always have this effect.

The changes in score brought by correction to standard accuracy are much more significant, however, when considered from the point of view of the determination of the correlation between two abilities. The changes in rank order, so apparent in Table III, would decrease greatly any correlation based upon uncorrected scores. It is probable, therefore, that many of the conclusions reached in previous investigations, may be profoundly modified when the same correlations are made with corrected scores.

One final point remains to be discussed. For the 21 individuals who were measured in respect to their adding ability under a variety of conditions, eleven different types of scores were secured as follows:

1. Rate under conventional test conditions.
2. Accuracy under conventional test conditions.
3. Apparent rate when accuracy was emphasized.
4. Actual rate when accuracy was emphasized.
5. Actual accuracy when accuracy was emphasized.
6. Accuracy at uniform rate (17.8 examples in 8 minutes.)
7. Rate of motor activity.
8. Rate corrected to 75 per cent accuracy.
9. Rate at 75 per cent accuracy corrected for motor elements.
10. Rate corrected to 100 per cent accuracy.
11. Rate at 100 per cent accuracy corrected for motor activity.

The question naturally arises, "Which score or scores best represent the true adding ability of the persons measured?" The answer is to be sought in the intercorrelations between the scores. Before discussing this problem, however, it is necessary to describe more precisely than previously (page 11) the conditions under which each of the various types of scores was secured.

Scores 1 and 2 above were obtained by giving and scoring the test according to the directions published by the author. Score 3 is the number of examples completed when the group were told to work each example at least twice and as many times more as might be necessary to make sure every example was right. As the members of the class followed these instructions, the accuracy of work was in nearly every case 100 per cent, but some members of the group attained this degree of accuracy only by working each example three or four times until two answers were obtained which would check. Fortunately, all this work was recorded, so it was possible to determine the *actual* rate and accuracy (Scores 4 and 5) of this careful work. The test was also given compelling every person to work at the rate of 17.8 examples in 8 minutes (the standard time allowance for this test) and the resulting accuracy is given in Score 6. Finally, the test was given as a copying test. Subjects mentally prefixed 4 to the number at the top of each example and wrote the result as the answer. Thus in Fig. 5, page 12, the answer to the first example would be written as 4,339. Three one minute trials were given and the median rate used as Score 7. That is, Score 7 is a measure of the motor and other elements of the test except the adding, and as such fulfills the conditions set up in the correction formula discussed on page 5. The remaining scores are self-explanatory. Scores 1 to 6 were graphed and from the pair of most consistent scores, Scores 8 and 10 were computed by the correction formula given on page 17. Each of the resulting rates was then corrected for the motor elements by the formula given on page 5, yielding Scores 9 and 11, which, if the assumptions of the correction formulae are valid, represent the pure adding ability of the members of the group under conditions which make the scores strictly comparable.

Each of these eleven sets of scores was correlated with each of the others. (Table IV.)

TABLE IV

INTERCORRELATIONS BETWEEN SCORES

Scores	1	2	3	4	5	6	7	8	9	10	11
1	—	.17	.67	.87	.41	.82	.40	.86	.86	.82	.79
2	.17	—	.35	.36	.05	.38	.14	.43	.43	.41	.05
3	.67	.35	—	.92	.46	.78	.21	.69	.68	.59	.61
4	.87	.36	.92	—	.24	.81	.10	.82	.92	.76	.73
5	.41	.05	.46	.24	—	.23	.39	.49	.26	.23	.26
6	.82	.38	.78	.81	.23	—	.41	.94	.92	.86	.85
7	.40	.14	.21	.10	.39	.41	—	.26	.20	.09	.03
8	.86	.43	.69	.82	.49	.94	.26	—	.96	.90	.92
9	.86	.43	.68	.92	.26	.92	.20	.96	—	.96	.93
10	.82	.41	.59	.76	.23	.86	.09	.90	.96	—	.99
11	.79	.05	.61	.73	.26	.85	.03	.92	.93	.97	—

P. E.	.10 = .15	.30 = .13	.50 = .11	.70 = .08	.90 = .03
	.20 = .14	.40 = .12	.60 = .09	.80 = .05	

Score

1. Rate under conventional conditions.
2. Accuracy under conventional test conditions.
3. Apparent rate when accuracy was emphasized.
4. Actual rate when accuracy was emphasized.
5. Actual accuracy when accuracy was emphasized.
6. Accuracy at uniform rate (17.8 examples in 8 minutes).
7. Rate of motor activity.
8. Rate corrected to 75 per cent accuracy.
9. Rate at 75 per cent accuracy corrected for motor elements.
10. Rate corrected to 100 per cent accuracy.
11. Rate at 100 per cent accuracy corrected for motor activity.

The results are very suggestive. The rate under standard conditions has the highest correlation (.87)[6] with the actual rate when accuracy was emphasized, and almost as great correlation with the accuracy scores at a standard rate (.82), and with rate scores corrected to 75 per cent accuracy (.86). On the other hand, all correlations with accuracy scores are low (.40), and all correlations of accuracy scores with other scores (see 2 and 5) are low. In other words, accuracy is not a measure of ability but simply a symptom of the method of work adopted by the subject in responding to the test conditions. Rate scores under

[6] Pearson's product-moment method.

the conventional conditions are fairly reliable measures of true adding ability.

Adopting the rate scores at 75 per cent accuracy corrected for motor ability (9) as representing what is probably the best measure of true adding ability, it is interesting to note that nearly equally reliable measures of true ability could have been obtained by a direct test, either by determining the actual rate while emphasizing accuracy ($r = .92$) or by determining accuracy at a standard rate ($r = .92$). The score in terms of number of examples right under conventional conditions is not as perfect a measure of true ability as the rate scores, but it serves better than accuracy scores alone. (The correlation between example right and the rate scores at 75 per cent accuracy corrected for motor ability equals .83).[7] In other words, the scores obtained under any set of truly uniform conditions reveal the true abilities of the subject, but mere emphasis on accuracy (as in 3) will not yield satisfactory results.

A number of minor tendencies are also interesting. Rate of motor activity is seen to be a measure of an ability largely independent of adding activity; for the correlations with the real measure of adding ability are all low. When accuracy was emphasized those who worked most rapidly tended to make the lowest scores ($r = .39$).

The corrections for motor ability produced small and in general probably unfavorable results. Correction to 75 per cent accuracy without the correction for motor elements yields a slightly higher correlation with accuracy scores at a standard rate (.94) than the corrected scores. Similarly, correction to 100 per cent accuracy yielded, in general, lower correlations than correction to 75 per cent accuracy. However, as this is the first study of its type and the number of cases small, all the above conclusions will need to be carefully checked by more elaborate and more extended investigations before they can be taken for more than their suggestive value.

In bringing this discussion to a close it may be well to point out that the correction formulae developed above have a value which is entirely independent of whether the assumptions upon

[7] Not shown in the table but computed. Coefficient quoted above is the largest obtained for examples right.

which they rest are valid or not. Where the assumptions are true, corrected scores reveal pure abilities. When the assumptions are not valid, the variations in score enable the investigator to trace the effect of certain factors one step further into that mysterious field of action we call thinking. In a behavioristic psychology, investigation can penetrate into the mind only as far as is made possible by the technique of securing objective evidences of variations in mental activity in response to changes in stimuli. It is the authors' hope and belief that the method of correction of performance scores by appropriate formulae will contribute to the building up of a more effective technique than exists at present. Indeed this may well be the chief and most permanent value of this imperfect study.

Finally, it may be well to emphasize the fact that the authors' opinion is not that elaborate and cumbersome testing methods must replace those now in use, but that correction formulae in the hands of makers of tests and others interested in pure research will enable them to so study the effect of variations in testing conditions that selection may be made of those which will yield the most reliable results. Thus for the test shown in Fig. 5, page 12, the addition of the following sentences to the instructions will greatly increase its reliability. "Do not check your examples. Try each example once and pass to the next. Do not hurry. Try to work at such a rate that each example will be right the first time you try it." When it is remembered that the time cost of tabulating unreliable results is no less than for reliable results, to say nothing of the irritation and harm caused by faulty inferences from imperfect data, the obligations resting on makers of tests to perfect their products before issuing them for general use should be self-evident. In other words, coincident with the growth of interest in measurement and in its use in practical educational work, there must be growth in the reliability of the measuring instruments themselves, if educational tests are not to prove of limited value. Improved methods of constructing and of using tests are therefore possible practical outcomes of the development of correction formulae.

THE TEACHERS' BACCALAUREATE

By FLETCHER HARPER SWIFT
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I. THE ORIGIN AND PRESENT STATUS OF TEACHERS' PROFESSIONAL DEGREES

What shall be the teachers' baccalaureate degree? To state the question more fully, what degree shall universities and colleges confer upon graduates whose aim is to become teachers and who, during their course, have made definite preparation for their chosen profession by pursuing professional studies in Education? This question, recently given national prominence by the *Report of the Committee on Professional Curricula*, appointed by the Carnegie Foundation for the Advancement of Teaching, is by no means a new one. As long ago as 1879 we find Mr. J. C. Gilchrist, principal of the Cedar Rapids (Iowa) State Normal School, urging the need of professional degrees for teachers and suggesting the following: L. In. (Licentiate of Instruction); M. In. (Master of Instruction); D. In. (Doctor of Instruction). From Mr. Gilchrist's address it is evident that many efforts had already been made to find a degree or rather a sequence of degrees suitable to the teaching profession. Among the degrees named by him as current in 1879 were the following: Licentiate of Instruction; Bachelor of Didactics; Bachelor of Scientific Didactics; Bachelor of the Elements; Bachelor of the Sciences; Bachelor of the Classics; Master of the Elements; Master of the Sciences; Master of the Classics; Principal, Bachelor and Master of Pedagogics.[1] Mr. Gilchrist's address was given before the Normal School Section of the National Education Association and his discussion viewed the question chiefly from the standpoint of the normal school. That he did not regard it as a normal school problem solely is shown by his proposal that the degree of

[1] Gilchrist, J. C., *Professional Degrees for Teachers*, the Addresses and Journal of Proceedings of the National Education Association, 1879, pp. 117–118.

Master of Instruction be conferred upon "graduates of normal schools *and colleges* who have taught successfully for five years."

That universities and colleges have long since attempted from time to time to create a new and distinctive professional degree for teachers is evident from the widely known and universally scorned degree, Bachelor of Pedagogy. A number of less widely known degrees are cited by Professor Luckey in his monograph on *The Professional Training of Secondary Teachers in the United States:* in 1876 the College of Normal Instruction of the University of Missouri was guilty of inflicting upon its graduates the degrees of Pe.P., Pe.B., Pe.M., Principal, Bachelor, and Master of Pedagogics.[2] In the year 1885–1886, the University of North Carolina provided for the establishment of a normal department and granted the degree of Pe.B. in connection with the Bachelor's degree to graduates who had completed the course in the Science and Art of Teaching.[3] In like manner the University of Kansas, ignoring the long established signification of the degree B.D. (Bachelor of Divinity), chose this as the degree to be granted in conjunction with the B.A. or B.S. to graduates who had completed certain pedagogical courses including practice teaching.[4] None of the degrees thus far named has met with wide favor. Indeed, it is probable that the majority of the unfortunates upon whom they have been inflicted are about as proud of them as the small boy who was christened Nosmo King Johnson and who later on in life discovered that his Christian name had been taken by his parents from the open doors of a cafe and that the doors, when closed, read "No Smoking."

The quest for a distinctive professional degree for teachers in the United States is inseparable from the rise of collegiate departments and schools of education. According to Quick, it was Richard Mulcaster who first proposed the establishment within universities of a teachers' training college on the same footing as colleges for training lawyers, physicians, and clergymen.[5] In his *Positions*, published in 1581, Mulcaster wrote: "Why should

[2] Luckey, G. W. A., *The Professional Training of Secondary Teachers in the United States*, pp. 72, 73.

[3] *Ibid.*, p. 90.

[4] *Ibid.*, p. 80.

[5] Quick, Robert Herbert, *Essays on Educational Reformers*, p. 100.

not teachers be well provided for to continue in their whole life in the school (i. e., in the profession of teaching) as divines, lawyers, physicians do in their several professions? . . . I conclude, therefore, that this trade requires a particular college." [6] It is scarcely necessary to add that this sage proposal of the Head Master of Merchant Taylors awakened no response in England and that it is to Germany we must turn to discover the first university attempt in modern times to provide distinct professional courses for prospective teachers of secondary schools.[7] Here at Göttingen in 1738 Johann Mathias Gesner, professor of rhetoric (Greek and Latin literature), established a *Seminarium Philologicum* in which candidates for the teaching profession received a general education and practical as well as theoretical training in pedagogy.[7] Before the middle of the nineteenth century, similar provision had been made at the Universities of Halle (1779),[8] Königsberg (1774),[8] Heidelberg (1807 or earlier),[8] Kiel and Jena (*c.* 1843).[8]

As far as records exist, it would appear that the first demand in America for a collegiate department was that made at Amherst College in 1826, nearly a hundred years after the establishment of Gesner's *Seminarium*. In this year the faculty of Amherst College presented a report to the board of trustees which contained among other proposals the following: "There is one new department of great practical importance which it appears to us should be annexed to the College as soon as the funds will anyhow permit—we mean the *Science of Education*. When it is considered how this lies at the very foundation of all improvement . . . it is truly wonderful to us that so little attention has been bestowed upon the science of mental culture and that there is not . . . and never has been a single professor of education on this side of the Atlantic." [9]

Five years were to elapse between the presentation of this recommendation and the establishment of the first American professorship in education and then it was not at Amherst but at

[6] Mulcaster, Richard, *Positions* (R. H. Quick, ed.), pp. 248–249.

[7] Monteser, Frederick, "Gesner," Monroe's *Cyclopedia of Education*, III, 105.

[8] "Education, Academic Study of," unsigned article, Monroe's *Cyclopedia of Education*, II, 404–405.

[9] *Ibid.*, p. 406.

Washington College in Pennsylvania that the initial step was taken.[9] Despite this early beginning, little if any development appears prior to 1850. In that year Brown University provided for a normal department which, however, continued *in existence for only two years*.[10] During the next fifty years one institution after another attempted to provide professional courses in education. The rapidity and extent of the movement will appear from the table which follows. It is interesting to note that the pedagogical courses provided prior to 1885 at American colleges and universities were in nearly every case designed chiefly to prepare teachers for elementary schools, whereas the chairs and departments created from 1885 onward appear to have been established for the most part for training teachers, supervisors, principals, and superintendents for secondary schools.

BEGINNINGS OF THE PROFESSIONAL STUDY OF EDUCATION IN AMERICAN COLLEGES

Institution	*Date*[a]	*Character of Work*
Brown University	1850–52[11][b]	Normal department
	(1893[12][c]	Instructor in pedagogy)
University of Indiana	1852[13]	Normal department for elementary teachers[13]
Antioch College	1853[14]	Course in education
University of Iowa	1855[15]	Normal department—elementary
University of Wisconsin	1856[16]	Professorship in "Theory and Practice of Elementary Instruction"
University of Missouri	1868[17]	Normal college—elementary[17][f]
Harvard University	1871[18]	Lectures for teachers[18]
University of Kansas	1876[19]	Normal department for elementary teachers[19]
University of Michigan	1879[20]	Professorship in science and art of teaching[20]
Kentucky State College	1880[21]	Normal department—elementary[f]
University of California	"early 80's"	Teachers' courses[22]

[9] Luckey, G. W. A., *The Professional Training of Secondary Teachers in the United States*, pp. 63–64.

[11] *Ibid.*, p. 63.
[12] *Ibid.*, p. 65.
[13] *Ibid.*, pp. 80–81.
[14] *Ibid.*
[15] *Ibid.*, p. 66.
[16] *Ibid.*, pp. 74–75.
[17] *Ibid.*, pp. 71–72.
[18] *Ibid.*, p. 129.
[19] *Ibid.*, pp. 78–79.
[20] *Ibid.*, p. 104.
[21] *Ibid.*, pp. 85–86.
[22] *Ibid.*, pp. 141–142.

TABLE—Continued

Institution	*Date*[a]	*Character of Work*
Johns Hopkins University	1883–84[23]	Professorship in psychology and pedagogics; preparation of secondary teachers, college teachers, teachers for technical schools[23e]
University of North Carolina	1885[24d]	Normal department—elementary[24]
University of Minnesota	1885–86	Lectures on science and art of teaching, elective for seniors; preparation of secondary teaching[25]
	(1905	College of Education)
Cornell University	1886[26]	Department of education[26]
Ohio University	1886–87[27]	Chair of pedagogy[27]
New York University	1887–88[28]	Professor of pedagogy[28]
New York University	1890[35]	School of pedagogy[35]
Northwestern University	1888[29]	Professor of pedagogics[29]
Teachers College	1888[30]	Founded[30]
Columbia University	1890[31]	Lectureship in history and institutes of education[31]
Teachers College	1893–94[32]	Affiliated with Columbia[32]
University of Utah	1888[33]	Department of pedagogy—secondary[g]
Clark University	1889[34]	Professor of psychology and education; graduate work in educational science[34]
University of Illinois	1890–91[36]	Lectures on educational subjects given by professor of psychology
University of Illinois	1893–94[37]	Department of pedagogy[37]
University of North Dakota	1891[38]	Department of pedagogy—secondary[38]
Leland Stanford Junior University	1891[39]	Department of education[39]
University of Texas	1891–92[40]	Department of pedagogy[40]
Rutgers College	1892[41]	Department of education[41]
University of California	1892–93[42]	Department of pedagogy[42]
University of Pennsylvania	1894[43]	Department of pedagogy[43] College of Education established

[23] Luckey, G. W. A., *The Professional Training of Secondary Teachers in the United States*, pp. 115–116.

[24] *Ibid.*, pp. 88–89.
[25] *Ibid.*, pp. 92–93.
[26] *Ibid.*, pp. 117–118.
[27] *Ibid.*, p. 121.
[28] *Ibid.*, p. 139.
[29] *Ibid.*, pp. 146–147.
[30] *Ibid.*, p. 135.
[31] *Ibid.*, p. 132.
[32] *Ibid.*, p. 136.
[33] *Ibid.*, pp. 96–97.
[34] *Ibid.*, p. 125.
[35] *Ibid.*, p. 139.
[36] *Ibid.*, p. 147.
[37] *Ibid.*, p. 148.
[38] *Ibid.*, p. 98.
[39] *Ibid.*, p. 145.
[40] *Ibid.*, pp. 146–147.
[41] *Ibid.*, p. 148.
[42] *Ibid.*
[43] *Ibid.*, pp. 148–149.

TABLE—Continued

Institution	*Date*[a]	*Character of Work*
University of Nebraska	1895[44]	Department of pedagogy[44]
Ohio State University	1896–97[45]	Department of pedagogy[45]
Bryn Mawr	1898[46]	
University of Chicago	1898[46]	
	(1901	School of Education established[46])
University of Denver	1898[46]	
Middlebury College	1898[46]	
Smith College	1898[46]	
University of Vermont	1898[46]	
University of Alabama	1899[46]	
University of Furman	1899[46]	
Howard University	1899[46]	
University of Maine	1899[46]	
Mount Holyoke	1899[46]	
Ottawa University (Kansas)	1899[46]	

a. Date when first professional courses in pedagogical subjects or when a teacher training department was established.
b. Discontinued after two years.
c. Instructor in pedagogy appointed.
d. Summer normal institutes were held at the University as early as 1877.
e. The first professor was G. Stanley Hall.
f. That is, to prepare elementary teachers chiefly.
g. To prepare secondary teachers chiefly, though not exclusively.

It was inevitable that the rise of collegiate departments and schools of education revealed by the above table should sooner or later give rise to the demand for a distinctive professional degree. There are several reasons why, until recently, this demand has been intermittent and spasmodic. Until recently, the majority of college professorships in education have been placed in the Arts faculty. Frequently they were combined with the chair in philosophy or, if distinct from philosophy, have been subordinate to it or, at least, to the Arts College. If, instead of a professorship, a department of education was established, this general interrelationship was maintained. The department of education was placed in the College of Liberal Arts, frequently subordinate

[44] Luckey, G. W. A., *The Professional Training of Secondary Teachers in the United States*, pp. 148–149.
[45] *Ibid.*, p.123.
[46] *Ibid.*, p. 150.

to the department of philosophy. More than this, not only were the pedagogical courses offered few in number but they were, for the most part, distinctly historical or philosophical in character. Another important factor was the fact that the degree conferred upon the students who had pursued the pedagogical courses, was conferred by the Liberal Arts College.

It was a natural consequence of all these conditions—the placing of the department of education in the College of Liberal Arts, the "liberal" character of the professional courses, the small amount of the student's time devoted to these liberal-professional courses, the arts college control of the prospective teacher's degree—that little or no need should have been felt for any degree distinguishing bachelors who had pursued educational courses from those who had not. But the evolution of lectureships and chairs of education into departments, and of departments into schools and colleges of education has resulted in a changed attitude toward conferring upon their registrants the B.A. degree. The tendency to establish Colleges of Education on an equal footing with the Arts, Law and Medical Colleges has just begun. With the growth of this tendency and the more and more general separation of the faculty of education from the arts faculty, an increasing interest will be attached to the question: Shall colleges of education confer upon their graduates the degree which throughout the history of American education has been the degree conferred by colleges of liberal arts?

The demand for what is termed a distinctly professional degree which, as already stated, is by no means a new demand but which heretofore has been spasmodic and intermittent is now beginning to be heard with greater and greater frequency. Sometimes the demand comes from a department or school of education; in such cases it may grow merely out of a desire for a distinctive degree for the professionally trained teacher, or out of this desire coupled with the feeling that such a distinctive degree will tend to increase or, at least, emphasize the autonomy of the department or college of education. However, the superior prestige of the B.A. will undoubtedly result in making the great majority of the teachers' training colleges thoroughly content to confer it as their professional baccalaureate degree and the real impulse for a new degree will come not from them but from the faculty of the arts college

who regard the right of conferring the B.A. as their peculiar and well-nigh sacred privilege, a privilege dating back to the very beginning of universities in the Middle Ages.

The chief objections which arts faculties will undoubtedly raise to the granting of the B.A. by faculties of Education will probably include the following: (1) Colleges of education are professedly professional schools. (2) The B.A. degree has, throughout its history, been identified with courses the aim of which has been general culture as opposed to professional preparation. To quote from a statement which recently came to hand:

> Traditionally the B.A. degree has signified that its holder obtained a satisfactory training in the fundamental principles of human knowledge. The student thus equipped might follow one of the learned professions or he might enter upon the affairs of the everyday world. In either event, he was regarded as a person of culture, qualified to comprehend and participate in the intellectual movements of his time. A sharp distinction was maintained between students who had devoted themselves to this study of principles of learning in their universal applications and those who had *during the same time* studied the application of some of these principles to a particular profession or vocation. This meaning of the B.A. degree was in vogue when universities were first established and has been maintained in European universities ever since.

Refraining for the present from pointing out the historical inaccuracies in the above quotation, let us continue by noting other specific objections along somewhat different lines.

(3) A third objection, inseparable from the preceding two, which undoubtedly will be raised against colleges of education granting the B.A. degree is that the college of education Bachelor's degree, whatever it may be, will, in an increasing number of cases be conferred upon students a large portion of whose course has been devoted to studies pursued to render them eligible for a teacher's special certificate in such subjects as agriculture, commercial subjects, drawing, home economics, manual training, music, physical education, etc., etc. It will be urged that these courses are distinctly vocational or technical courses, and that they should not culminate in a degree for centuries identified with distinctly cultural courses.

Before attempting to discuss the above objections, it may be well to ask, How shall the choice of the teacher's baccalaureate degree be determined? Shall it be upon the basis of current American practice? To do so would be to accept such practice without ascertaining its soundness. Shall the matter be left to faculty vote? This would be to place the decision of a question calling for a high degree of expert knowledge in the hands of a group of men, experts each in his own field, but whose decision in the present case would be made without the necessary knowledge of the facts involved. One method remains, the only one which in the long run will prove sound or satisfactory. The significance of an existing and long established degree and its fitness to meet new conditions must be determined not by current practice, not by faculty vote, but by its origin and by what it has signified in the past—in other words, by its history. Even the most cursory historical study will show (1) that university degrees not only in Arts and Philosophy, but in Law, Medicine and Theology, were first established for the protection of those teaching these subjects; (2) that, in consequence of (1) all university degrees were originally distinctly teachers' professional degrees; (3) that the baccalaureate arose as a stage of pupil teaching in the general system of teacher training to which mediæval universities were devoted, and that the Bachelor's degree, far from being originally a cultural degree, was a teacher's inferior professional degree; (4) that the mediæval university arts course, far from being in any sense a liberal course, was exceedingly narrow and to a large extent vocationalized. From this preliminary statement of theses, let us turn to a consideration of the supporting facts.

In the early Middle Ages, i.e., prior to the rise of universities and their systems of degrees, the power to examine and to license, i.e., to admit aspirants into the ranks of teachers, had generally rested with the bishop or abbot within whose territory permission to teach was sought or with some other ecclesiastical official subordinate to the bishop or abbot, such as the chancellor.

Universities arose as professional schools. They began as groups of teachers and students. Individual teachers who had devoted themselves to the study of philosophy, theology, medicine, law or "the liberal arts," offered lectures in these fields. Around such teachers students gathered in increasing numbers with the

result that the city in which a famous teacher resided became more and more renowned as a center for the study of the branches which he represented.

> Originally the only school in Bologna was the School of Jurisprudence. . . . Subsequently eminent teachers of medicine and the liberal arts appeared and their pupils, too, sought to form a university and to choose their own rector.[47]

Just as Bologna came in this manner to be regarded throughout all Europe as the goal for students of law, so Paris and Oxford became meccas for students of canon law, arts, philosophy, and theology and Salerno and Montpellier for students of medicine. A city which had gained renown as a center for professional study attracted not only great numbers of students but teachers seeking the opportunity to lecture. It appears that at first the only check upon those who aspired to give such higher instruction came through ecclesiastical or secular officers. These officials were, in some cases, too lacking in knowledge to pass upon the fitness of the candidates, in other cases too eager for the fee paid by the aspirant for a teacher's license and in still others ignorantly overzealous to grant everyone who desired it, the privilege of teaching. Malden writes:

> We have observed that the chancellor (of Ste. Genevieve) exercised a discretionary power in admitting masters to teach in the school of arts. It appears that this power . . . was sometimes used through jealousy or other personal motives for the exclusion of fit and able teachers and that sometimes it was made an instrument for extorting a high public price for a license to deliver public instruction. By a Canon of a Lateran Council . . . A. D. 1179, it was enacted, 'that every competent person ought to be admitted to teach.' [48]

At this time the Chancellor of Paris was exempted from the prohibition of taking fees.[49] But in 1215 it was felt necessary to apply this prohibition to him also.[49] At Paris, then the great center of theological study, at first no degree was required of those desiring to lecture on theology. Any student whose reputation was sufficient to attract an audience and who had secured a

[47] Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, III, pp. 178–179.

[48] Malden, Henry, *The Origin of Universities and Academical Degrees*, p. 9.

[49] *Ibid.*, p. 10.

license from the chancellor lectured at will.[50] The same *Lehrenfreiheit* which existed at Paris existed for a time also at Montpellier. Thus William VIII, seignior of Montpellier in a charter formulated in the year 1181, declared he would never grant to anyone the exclusive privilege of lecturing in medicine "seeing that it would be too atrocious and too contrary to justice and religion to convey to a single individual the right of teaching so excellent a science." Consequently he authorized all persons whosoever they be and whencesoever they come who wish, to teach medicine in Montpellier with full and complete freedom regardless of any opposition.[51]

Such freedom of teaching, whether at Montpellier, or Paris, or elsewhere could not fail to result in many half-learned persons offering lectures. From time to time individuals inadequately prepared offered lectures and gained a following. Some were men who had gained a little knowledge elsewhere and who, in a city where their profound ignorance was unknown, sought to pose as scholars. Others were students who for a longer or a shorter time had studied under some local teacher of note and who without completing their course and without their master's sanction defiantly opened shop. It was to remedy these evils, as Malden points out, that the Parisian "teachers of better reputation united themselves and formed a regular society; and they had sufficient influence to establish a rule, that no one should be allowed to teach without their . . . permission. This, of course, led to an examination of the candidates and to a public trial of their ability and to a formal admission to the dignity of teachers or doctors."[52] From now on the title *doctor* was given the candidate by those already possessing it when after an examination they had found the candidate worthy to enter their ranks.

Although the limits of the present account will not permit entering upon an exhaustive treatment of the intricate and difficult problem of the evolution of university degrees, it is necessary to note briefly a few additional important facts. The terms Dominus, Magister, and Doctor probably arose, like the Jewish

[50] Malden, Henry, *The Origin of Universities and Academical Degrees*, p. 15.

[51] Luchaire, Achille, *Social France at the Time of Philip Augustus*, p. 66; cf. Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, III, 376.

[52] Malden, Henry, *op. cit.*, pp. 15–16.

term Rabbi, as appellations of honor and respect assumed by teachers or used by those who addressed them. It was only after the university teachers had formed associations or guilds that these terms became titles which must be formally conferred, and which carried with them definite rights and privileges.[53]

The succession of degrees Bachelor, Master, and Doctor in vogue in America is not only largely a uniquely American institution but finds little justification in the practice of mediæval universities. In France to-day the B.A. degree is given at the completion of the course of study of the *Lycée* or college. At the completion of this secondary school course the French student, it will be recalled, has reached a stage represented approximately by the completion of the sophomore year at an American university of good standing. Strict adherence to tradition would probably necessitate adopting the French system. In America this would necessitate the organization of our colleges into junior and senior colleges: the granting of the B.A. degree at the completion of the junior college course (that is, the close of the sophomore year); and the granting of the master's degree at the completion of the senior college course.

Doctor and master, far from representing different degrees at mediæval universities, were synonomous and interchangeable.* Both meant the same thing, that the holder had been granted by some university the rights and privileges possessed by the members of its teachers' society or guild. "The titles of master, doctor, and professor were originally synonomous; master, however, was more commonly employed by the faculties of theology, arts, and medicine at Paris; doctor, professor, and dominus were used at Bologna in the faculty of law. In Germany the title of doctor spread to all faculties, and the one degree of Doctor was and has continued to be given in all faculties." [54]

The last few paragraphs have attempted to make clear that the degrees of Doctor and Master, originally equivalent, were in

[53] Malden, Henry, *The Origin of Universities and Academical Degrees*, pp. 44, 54.

* An exception to this at Bologna is noted by Malden who writes: "The title of doctor was by this time (i.e., the thirteenth century) considered as more honorable (at Bologna) than that of master, although originally no distinction was made between them; and the appellation (note Malden does not say degree) of master was retained by those lecturers who were not yet promoted to the doctorate."

[54] "Degrees," Monroe's *Cyclopedia of Education*, II, 285.

the beginning distinctly teachers' professional degrees; sought for the right they gave their possessors to *instruct at universities*. Although this position may be supported by citations from many different authorities, it will suffice to quote Savigny and Rashdall. Savigny writes: "The title (doctor) was given by the doctors (at Bologna) when after an examination they found the candidate worthy to enter their ranks. This admission, called promotion, gave an unlimited right to teach, . . . jurisdiction by each teacher over his students, and also the right to participate in the giving of degrees; i.e., a place in the faculty of promotion." [55] Rashdall not only supports Savigny's views but amplifies them. He traces the manner in which this right to give university instruction, at first confined to the domain within whose jurisdiction the university was situated, gradually became extended and, finally, following the granting of charters to universities by the pope whose authority was world wide, came to confer upon its possessor the right to give instruction anywhere throughout Christendom (*jus docendi ubique*). "From this time (late thirteenth century)," writes Rashdall, "the notion gradually gained ground that the *jus docendi ubique* was the essence of a *studium generale**." [56]

That the conferring of the right to teach as the essential quality of a degree was in no sense limited to degrees in arts but that it pertained equally to doctorates in law is evident from the following extract taken from the formula used at Bologna in 1710 by the archdeacon, in conferring the Law License:

> Inasmuch as you have been presented to me for examination in both (Civil and Canon) Laws and for the customary approval . . . and inasmuch as you have since undergone (successfully) an arduous and rigorous examination . . . by the authority which I have as Archdeacon and Senior Chancellor, I create, publish and name you, . . . Doctor in the aforesaid faculties, giving to you every privilege of lecturing, of ascending the master's chair, of writing glosses, of interpreting, of acting as Advocate, of exercising also the functions of a Doctor here and everywhere throughout the world.[57]

[55] Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, III, 206–207.

[56] Rashdall, Hastings, *Universities of Europe in the Middle Ages*, I, p. 12.

* The earliest term for designating universities.

[57] Rashdall, Hastings, *op. cit.*, II, Part II, pp. 734–735.

It is noteworthy that in the six rights enumerated by the archdeacon in the license just quoted only the fifth refers directly to the practice of law, whereas all the others specifically or by implication refer to teaching. The fact that the document quoted is of late date only lessens the causes for its emphasizing the teaching aspect and therefore increases its value as a witness to the dominance of the teaching privilege in the conception of the doctorate in law.

More remarkable even than the fact that the university degree carried with it the privilege to teach was the custom of exacting from the new doctor under oath a promise to teach. Various oaths were taken in connection with the examination and the degree. Most important of all the oaths taken at Bologna by the new doctor was his "promise on oath not to teach outside Bologna, by which it was sought to preserve the school to Bologna exclusively." [58] Savigny cites twelve cases in which this oath was administered between the years 1189 and 1221. In 1321 this oath was abolished at the request of the scholars who paid the city for its abolition.[59] "At Paris," writes Rashdall, "in consequence of the multiplication of masters of arts, the remuneration that could be got by teaching was small and a difficulty was experienced in getting a sufficient supply of teachers . . . and it was even necessary to compel graduates to remain and teach for a time to ensure a sufficient number of lecturers." [60] The statutes of Robert de Courçon for Paris, 1215, required every master to promise to lecture "for at least two years, unless he is prevented by some good reason, which he ought to prove either in public or before the examiners." [61] That teaching was a specific requirement of candidates for the degree in Canon Law at Paris in the fourteenth century is pointed out by Savigny. He summarizes the Statute of the Canonists from the year 1370 as follows:

> Those who had received the degree of licentiate of Roman law were examined no further; all others after having heard lectures on Canon law for forty-eight months in the space of six years and having read lectures

[58] Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, III, 218.

[59] *Ibid.*, III, 219–220.

[60] Rashdall, Hastings, *Universities of Europe in the Middle Ages*, I, p. 207.

[61] *Chartularium universitatis parisiensis* (compiled by Denifle and Chatelain), No. 20, Vol. I, p. 78.

during forty months within five years could become licentiates. If they had studied both systems of law it was enough to lecture sixteen months within two years.[62]

Sir William Hamilton indicates a similar state of affairs with respect to Oxford:

> Every graduate had an equal right of teaching publicly in the University the subjects competent to his faculty . . .; nay, every graduate incurred the obligation of teaching publicly, for a certain period, the subjects of his faculty, for such was the condition involved in the grant of the degree itself.[63]

It is well known to all who are familiar with conditions that to-day the doctorate is still primarily and chiefly a teacher's professional degree for those looking forward to a university career. This thesis is well stated in unequivocal terms by Professor Lawrence, of Columbia University, in a recent article in the *Columbia University Quarterly*. "To a very large extent," writes Professor Lawrence, "the graduate schools of a university are in effect the most advanced of all normal schools, existing mainly to train teachers, particularly teachers in colleges and universities. Such is at present their main function in the United States, and it is idle to pretend that it is not.[63a] Most people recognize that the way to teaching in the college lies through the gate of the university. This gate is rapidly coming to be known as the Doctorate of Philosophy.[63b] The conclusion is that he (the graduate student) ought to devote his time in the university to the sort of work which he is later to do in his college teaching." [63c]

From the preceding paragraphs, it should be quite evident (1) that originally the primary, or at least one of the primary functions of universities was to prepare teachers; (2) that the degree, doctor or master, arose as a professional degree for teachers. We may now turn to consider whether or not, in the light of history, the baccalaureate ought to be regarded as a period of acquisition of general culture and the B.A. degree as a cultural degree—or

[62] Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, III, 360–361.

[63] Hamilton, Sir William, *Discussions of Philosophy and Literature, Education and University Reform*, third edition, p. 402.

[63a] Lawrence, William Witherle, "The Humanities and the American University," *Columbia University Quarterly*, September, 1915, p. 304.

[63b] *Ibid.*, p. 305.

[63c] *Ibid.*, p. 309.

whether teacher-training colleges are justified in claiming this degree on historical grounds as peculiarly theirs.

II. THE B.A. AS THE TEACHER'S PROFESSIONAL DEGREE

The earliest use made of the term bachelor was as a title given to pupil-teachers at mediæval universities. When, later on, mediæval universities became more thoroughly systematized, bachelors were eligible for definite types of university teaching. Not only is this true, but at Paris, at least, they played an increasingly important part until, as Rashdall informs us, "The doctors developed or degenerated into mere dignitaries . . . while the only real teachers were the bachelors." [64] As the distinction between bachelors and doctors was in part accentuated by the limitations placed upon bachelors with respect to the types of the instruction they might offer, it is necessary at this point to note the more important of these.

The chief types of scholastic exercises at mediæval universities were (1) lectures ordinary, (2) lectures extraordinary, (3) disputations or debates, (4) repetitions, (5) conferences, (6) quizzes, (7) examinations. The distinction between lectures ordinary and lectures extraordinary is a problem to which scholars have devoted much effort and upon which there is still considerable disagreement. Mullinger, Compayré, and others are of the opinion that the ordinary lectures were those regarded as elementary and fundamental and that extraordinary lectures were those given as supplementary to the ordinary lectures.[65] Other writers maintain that ordinary lectures were those given in the morning (i. e., at ordinary hours) and that extraordinary or cursory lectures were those given in the afternoon.[66] Disputations, as the name implies, were public debates. "Scholars and masters frequently posted in public places theses to the argument of which they challenged all comers." [66a] Repetitions varied somewhat in form and method with the university. At Bologna, "a repetition consisted in the complete interpretation of a text,

[64] Rashdall, Hastings, *Universities of Europe in the Middle Ages*, I, p. 464.

[65] Compayré, G., *Abelard and the Origin and Early History of the Universities*, p. 173, note 1.

[66] Norton, Arthur O., *Readings in the History of Education, Mediæval Universities*, pp. 107–108.

[66a] *Ibid.*, p. 115.

enumerating and criticizing all doubts and objections." [67] "The text had to be taken from the subject of the lecture, the course then being delivered by the reader, and must have been previously read and explained in that course." [68] From this preliminary explanation of the different types of scholastic exercises, we may return to our consideration of the origin of the baccalaureate and its relation to teacher training.

The large number of students and the scarcity of professors at mediæval universities gave rise to a practice by no means unknown to earlier mediæval schools and which continues at universities to-day, namely, the employment of the more advanced and more proficient students as teachers. Such pupil-teachers were called bachelors. The term was at first not in any sense a degree but merely a title by custom applied to such pupil-teachers. "We everywhere meet with the institution of the baccalaureate or pupil-teachership before the name occurs in formal documents. In a document of the year 1297 which gives a list of students is found the following explanation: 'Qui legunt extraordinarie et vulgariter Bachalarii vocantur.' " [69]

The subsequent history of the baccalaureate varied with the university. At Bologna "no examination or formal test was ever required for the baccalaureate, which was altogether much less of a distinct 'degree' and of much less importance than it eventually became in the academical systems of Paris or Oxford." [70] Of bachelors and the baccalaureate at Bologna, Savigny states: (1) bachelors were not nominated by the faculty; (2) the baccalaureate was not an academical degree; (3) it was not a public introduction into the profession of teaching.[71] A bachelor was a student who had lectured "upon a whole book of canon or civil law (not merely on one article or chapter) or who had held a formal repetition." [72] At Bologna students secured their permission to teach from the rector, the faculty of doctors having

[67] Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, III, 270.

[68] *Ibid.*, III, 271.

[69] Rashdall, Hastings, *Universities of Europe in the Middle Ages*, I, p. 210, footnote 1.

[70] *Ibid.*, p. 222.

[71] Savigny, Friedrich Carl von, *op. cit.*, III, 240.

[72] *Ibid.*, 239.

nothing to do with it. Not only was this true, but the rector generally was obliged to grant a student permission to lecture if the student who desired to lecture on one subject or treatise had studied five years, or if he who wished to lecture on an entire work had studied six years, to which the scholar testified under oath.[73]

At universities where the course of training leading to the doctorate or mastership with the license to teach was most completely systematized, four stages appeared: (1) the preparatory stage, (2) the baccalaureate, (3) the licentiate, (4) the doctorate or mastership.[73a] A student's career at Paris began with his enrollment under a particular master or doctor with whom he began reading prescribed texts in the fields of grammar, rhetoric, and logic. From this stage of mere learner the student advanced next to that of pupil-teacher or bachelor. At first, as already noted, no formal examination or test was required of those students who aspired to conduct classes; any student whose reputation was sufficient to attract an audience lectured if he wished. Individual masters, in some cases, probably selected their best pupils and aided them in completing whatever arrangements were necessary. In time, however, this duty was taken over by the association of doctors or masters and a more definite procedure adopted. When the student had read the required texts, and fulfilled certain residence requirements, he presented himself before a board of examiners. This board, after satisfying itself that the candidate had fulfilled the above two classes of requirements, gave him an opportunity to defend publicly against an opponent some thesis in grammar or logic. This debate, or determination, as it was called, was the real test of the candidate's fitness.

"It was perhaps at about the period when *determination* was made a necessary preliminary to the mastership that the word Bachelor, borrowed from the terminology of the guilds and hitherto applied vaguely to any student allowed by his master to teach in his school or to a student who was a candidate for the mastership, came to be technically restricted in the Faculty of Arts (at Paris) to candidates who had, after passing the pre-

[73] Savigny, Friederich Carl von, *Geschichte des römischen Rechts im Mittelalter*, p. 238.

[73a] See Compayré, Gabriel, *Abelard*, p. 148 and note 1.

scribed examination, been duly admitted to determine and permitted to give 'cursory' (i. e., extraordinary) lectures. The baccalaureate became in fact an inferior 'degree' to which the candidate was regularly admitted. . . . After *determination*, a student resumed attendance at master's lectures. He was, moreover, required to take part in a certain number of disputations and to give a course of cursory lectures." [74]

From the above account it appears that the term baccalaureate, before and after it had become identified with a definitely conferred degree, signified a stage of apprenticeship in which the aspirant for entrance into the teaching profession did what may be called practice teaching, and that an essential characteristic of the bachelor was his admission into the ranks of pupil-teachers. We may well conclude this part of the present discussion by a reference to a thirteenth century document which furnishes interesting evidence of the exercise of the teaching function by bachelors at that time. In 1231 Gregory IX granted to masters and students at Paris the right to make their own regulations "concerning the bachelors who are to lecture and at what hours and on what they are to lecture." [75] Reference has already been made to the fact that eventually the greater part of the actual teaching at Paris was done by these same bachelors or pupil-teachers. It would seem that no further argument should be necessary to support the thesis that the baccalaureate and its corresponding degree, far from having been originally, in any sense, regarded as signifying the acquisition of general culture, were, on the contrary, identified with an apprenticeship in pupil-teaching, preparatory to entrance upon the profession of teaching. It may be objected that the "Arts Course" pursued by the aspirant for the baccalaureate was essentially a liberalizing course. Such an assumption is as natural as it is general. The term liberal arts, for centuries defined as "all the pursuits and activities proper to mankind," would seem of necessity to imply a liberal curriculum and a liberal ideal. The seven liberal arts, it will be recalled, consisted of two groups, a language group (the *trivium*), including grammar, rhetoric, and logic, and a science group (the *quadri-*

[74] Rashdall, Hastings, *Universities of Europe in the Middle Ages*, I, p. 448.

[75] *Chartularium universitatis parisiensis* (compiled by Denfle and Chatelain), No. 79, Vol. I, p. 137.

vium), including arithmetic, geometry, music, and astronomy. As taught at the best mediæval grammar schools these studies included much more than their names imply to the modern ear. Thus, grammar included a considerable study of classical literature; rhetoric included history and the elements of Roman law; astronomy included some physics; and geometry the rudiments of geography.

Undoubtedly one of the most scholarly studies of the mediæval arts course that has appeared in recent years is Professor Paetow's. Throughout this study two important theses appear: (1) the arts course at mediæval universities was far narrower than the arts course in the earlier mediæval grammar schools; (2) the arts course was distinctly vocationalized; i.e., such of the "liberal studies" as were taught were modified in such a manner as to make them preparatory to the vocational studies to which they led. The points made by Paetow most relevant to the present discussion may be presented briefly. The arts course at mediæval universities was largely confined to the *trivium*. The *quadrivium* was fostered at various times and places but this was exceptional and transitory. It was almost entirely obscured in France (the mother of mediæval university arts courses) during the latter thirteenth and fourteenth centuries.[76]

The *quadrivium* had been fostered to no small degree in the best of the mediæval grammar schools prior to the rise of the universities. The small place given to the *quadrivium* in the mediæval university arts course is sufficient in itself to show how erroneous is any statement to the effect that "the meaning of the B.A. degree, in vogue when universities were first established" (there was, of course, no B.A. degree when universities were first established) was that its "holder had obtained a satisfactory training in the fundamentals of human knowledge and was regarded as qualified to comprehend and participate in the intellectual movements of his time." By its omission of the *quadrivium*, the mediæval university excluded from its arts course a most highly important division of the "fundamentals of human knowledge" then known among men of intellectual culture. But this was not all. The *trivium* which, if taught in a liberal spirit, might have furnished a considerable degree of "culture," was

[76] Paetow, Louis J., *The Arts Course at Mediæval Universities*, pp. 7–8.

subordinated to vocational needs to such an extent as to become in effect distinctly vocational or prevocational, not only in place but in character. How far this vocationalization was carried is evident from the content and method of grammar, logic, and rhetoric as actually taught in the arts course.

Grammar at mediæval universities of the thirteenth and fourteenth centuries, far from being a broad and cultural study of literature, was an exceedingly barren affair. Previous to the rise of the universities there had been several revivals of the study of the classics. The Twelfth Century Revival gave a great impulse to this branch of learning. In France, Chartres became a center of this study.[77] "In a word, Chartres was a truly humanistic center where flourished the belles lettres based on a sympathetic (and broad) study of the ancient classics."[78] In view of these facts there was every reason to have expected that the university arts course would have offered a broad and liberal treatment of the masterpieces of antiquity. This it undoubtedly would have done had the aim of the arts course been the acquisition of a broad culture. But such was not its aim and Paetow is obligated to write, "the most remarkable omission was that of the ancient classics, especially the Latin classics."[78] After 1150 the schools at Chartres had declined rapidly, but Orleans became famous as a seat of classical learning. "The humanists of Orleans were famous until the middle of the thirteenth century."[79] Meanwhile the universities were appearing. "We should expect that the classics would have their share in the profit of this general mental uplift and that they would have found a still wider scope at the new universities, especially at Paris, which was in such close touch with Chartres and Orleans. But this was not to be because that age developed other intellectual interests (i. e., professional studies) which crowded out the literary classical studies."[79] Probably the classics did flourish at Paris for a time but "within the first half of the thirteenth century, however, interest in the classics waned rapidly." In 1234 John Garland (an Englishman by birth and a professor of grammar at Paris), in the same breath in which he espouses the cause of the

[77] See, Clerval, A., *Les Ecoles des Chartres au Moyen Age du V^e^ au XVI^e^ Siecle.*
[78] Paetow, Louis J., *The Arts Course at Mediæval Universities*, p. 11.
[79] *Ibid.*, p. 13.

classics, laments their decline. "He even suggests that a law be passed to re-establish the ancient classics." [80] Garland's plea was the last to come from within the walls of the great University of Paris: "By the middle of the thirteenth century the ancient authors had entirely lost their day." [81]

The facts presented by Paetow regarding rhetoric and logic are in complete accord with the tendencies characterizing the study of grammar. Logic was pursued not primarily for giving a general training in thinking but for its practical value to prospective teachers, theologians, and lawyers, in disputation, theological debates, and preparation of law cases.

Prior to the rise of the universities, rhetoric had included not only training in written composition and history, but a study of the elements of Roman law. [82] The rise of law into a separate subject or faculty immediately narrowed the scope of rhetoric. It was further narrowed by the gradual elimination of various elements until little was left except written composition. Rhetoric, in Greece and Rome from whom the early Middle Ages had inherited what they knew of the study, had been primarily the art and science of oratory. "Throughout the Middle Ages there never was a great demand for able public speakers and therefore rhetoric in the old sense of the word (i.e., oratory) was systematically neglected." The mediæval clergy believed that the word of God should be preached plainly and simply, without the embellishments of rhetoric. There was little place and little demand for oratory in university disputations of students and professors, for these "were applauded for the acuteness of the reasoning and not for the elegance and diction. In regard to the universities of law the same may be said about the pleadings of lawyers." [83]

Briefly, rhetoric which in the earlier mediæval schools had retained to a certain extent some of the liberal characteristics inherited from Greece and Rome, now under the vocationalizing influences of the universities became essentially a training in the technique of professional composition and "at best was usually but a branch auxiliary to grammar and dialectic." But the

[80] Paetow, Louis J., *The Arts Course at Mediaeval Universities*, p. 18.
[81] *Ibid.*, p. 19.
[82] *Ibid.*, p. 67.
[83] *Ibid.*, p. 70.

tendency to vocationalize rhetoric did not stop here. On the contrary, it stimulated and moulded this one remaining division of the ancient study until "the art of writing became a separate branch of learning quite distinct from the old formal rhetoric." [83]

This new art became known as the *dictamen prosaicum* or *ars dictamenis* and was recognized at some universities as a distinct branch of instruction. So important did it become that in some places it usurped the whole field of rhetoric and was simply called by that name (rhetoric).

The *ars dictamenis* was as distinctly vocational in origin as in aim. The growing business of ecclesiastical and lay courts created a demand for clerks able to draw up a great variety of letters, charters, deeds, etc. It was in Italy that the *ars dictamenis* arose as a separate branch of instruction.[84] "Alberich of Monte Cassino (fl. second half of the eleventh century) may be considered its founder." His books "were the first real manuals of instruction in the art of writing letters and official acts." [84] "After Alberich there came a regular succession of writers and teachers of the *ars dictamenis* in Italy and elsewhere." [85]

The *ars dictamenis* spread from Italy all over western Europe. The statutes of the University of Paris make no reference to it, but evidence from other sources shows that it was taught at that institution. Although the existence of the *ars dictamenis* as a separate study was very transitory, since "it had practically run its course by 1250," [86] its disappearance was apparent rather than real for it continued to be taught as apart of grammar and rhetoric.

Our chief interest is not in the history of the *ars dictamenis*, as a separate study, but rather in the light it throws upon the distinctly vocational aims, character, and tendency of the mediæval university's arts course, and in the additional justification it gives to our general contention of the impossibility of maintaining that university arts courses have been from the beginning cultural courses. From the time of Alberich onwards the tendency towards vocationalization continued. Later manuals more and more directed their attention to the practical needs of lay and ecclesiastical chanceries and therefore gave more and more space to official forms.[85]

[84] Paetow, Louis J., *The Arts Course at Mediaeval Universities*, p. 72.
[85] *Ibid.*, p. 73.
[86] *Ibid.*, p. 80.

The vocationalizing effect of the *ars dictamenis* upon the one time liberal study, rhetoric, is shown in the writings of Boncompagno (*c.* 1165–*c.* 1240).[88] How completely rhetoric had become the *ars dictamenis*, in other words vocationalized, is evident from the following topical statement of the six books [87] of his most important work *Rhetorica Antiqua:* [88] (1) Students' letters; (2) the various forms issued by the Roman church; (3) letters sent to the Pope; (4) letters to and from emperors, kings, and queens; (5) letters to the clergy; (6) letters of noblemen, cities and peoples.

If any additional evidence is needed to show how thoroughly vocational and even commercial was this "new study" it may be found in Paetow's statement of its aim. The purpose of the *ars dictamenis* he writes was "to train men for lucrative positions at the Roman Curia, the courts of kings and princes and higher ecclesiastics, or in the chanceries of the cities. Such work required considerable special training. It was necessary to learn the charter hand which at all times differed from the ordinary book hand, also the rules of the *cursus*, or the rhythmic cadence of phrases employed in drawing up important acts."[85]

It should now be evident how erroneous and unhistorical is any statement which attempts directly or by implication to maintain that the Bachelor of Arts degree has from the beginning represented the acquisition of liberal culture. It has been shown that the Bachelor as applied to arts students originally meant students who had entered upon a professional course of teacher training and who had arrived at the stage of being pupil teachers. It has also been shown that the arts course they pursued was singularly narrow and highly vocationalized. It thus appears that to our question, Should the B.A. degree be regarded as a distinctly cultural degree or may university teacher training departments and colleges claim it for their graduates—history knows but one answer. If the time has come when it is necessary to have two bachelor degrees, one for students definitely preparing for teaching and another for students pursuing undergraduate studies for the sake of acquiring what is termed general culture, the burden of inventing a new degree rests not upon the university teacher

[87] Paetow, Louis J., *The Arts Course at Mediaeval Universities*, p. 76.
[88] *Ibid.*, p. 75.

training department or college but rather upon that college which has ceased to fulfill the function which brought it in to being and which from time immemorial had been symbolized by the degree B.A.

In the United States the B.A. degree has long been accepted as the teacher's degree; that is, the holding of a B.A. degree from a creditable university or college has (until the recent introduction and emphasis upon teachers' professional courses) been in itself a sufficient qualification to secure for its holder admission into the rank of teachers of secondary schools and oftentimes into the rank of teachers in colleges and universities. There is no justification in the history of mediæval or modern education for asking teachers' colleges, that is, higher institutions established for giving university training to teachers, to surrender this, the teacher's first degree to colleges of liberal arts and to adopt a new degree such as B.S. or B.Ed. It is the teaching profession which evolved the baccalaureate as a stage in teacher training and the B.A. degree is the degree marking the completion of this first stage. As long as colleges of liberal arts were generally regarded as qualified to train teachers, so long and only so long were they entitled to first claim to this degree. With the recognized passing of their fitness for this function, they should expect to surrender this first claim. In a word, the burden of discovering a new degree should rest not upon institutions which do what has been the chief business of the baccalaureate-giving institutions from the twelfth century to the present time, namely, preparing teachers. The burden of discovering a new degree should rest rather upon the institutions which are relinquishing this task.

It would seem that our discussion of the teacher's baccalaureate degree might end here. It may be well, however, to present briefly a few of the arguments against the B.S. as the teacher's baccalaureate degree. The B.S. degree did not arise as a professional degree. It was provided as a degree to symbolize the completion of what was regarded as a distinctly inferior general course at a time when there was a demand within colleges of liberal arts for a course which should provide a larger amount of work in science than the traditional Greek, Latin and mathematics course. The needlessness of such a degree has long been recognized by many prominent educators. It should have been "exposed at birth."

Let us now reply briefly to those who desire that "B.A. in Education" or some similarly modified Bachelor's degree be given as the teacher's baccalaureate. "In Education" appended to the B.A. degree is superfluous from every standpoint. There is less reason for conferring the degree "B.A. in Education" than there would be for conferring such degrees as "B.A. in Zoology," "B.A. in Mathematics," "B.A. in English," etc., *ad infinitum*. The great majority of students who pursue professional courses in education and are granted the baccalaureate degree devote, during their college course, more time to such fields as languages, history, and mathematics, than they do to professional courses in education. If the baccalaureate degree is to show the character of the studies they have pursued chiefly, then we must adopt such degrees as "B.A. in Mathematics," "B.A. in French," "B.A. in History." Not only is it true that our university professionally trained teachers devote the major portion of their time and energy while at college to liberal arts courses, but it is further true that upon leaving the university they will become teachers in the secondary schools, not of the Science of Education but of these same liberal branches. "Bachelor of Arts in Education," "Bachelor of Teaching," "Bachelor of Pedagogy," any one of these might be a proper and desirable degree were it not that this has been, from the beginning, the most fundamental significance of the B.A. degree.

VALUES OF CAMPING FOR GIRLS

By JESSE F. WILLIAMS, M.D.
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A good school is worth more to the nation to-day than ever before in our history. Democracy as a form of government will be found acceptable, will be changed, or will be replaced, dependent upon the standards of citizenship taught in the schools of the present generation. This question of training for citizenship, for life, for Americanism, as generally stated, involves much more than teaching English to foreigners, or civics to the native born. In the last analysis, it amounts to helping to develop a proper attitude toward life and one's fellow beings; it becomes, essentially, for the adolescent girl, the acquisition of a philosophy of life.

Omit books and formal lessons and the summer camp presents the underlying principles of the school. It has certain advantages, however: it is much easier to learn in camp, where situations are evolved with all the interest and enthusiasm that gather so naturally around primitive and natural activities. It has some disadvantages also: the direct and evident values of camping, such as health and happiness, are so prominent that the more subtle and more indirect values of character training are apt to be neglected. The camp that fails to see the possibilities of character training, lacks imagination, and the camp that sees, but fails to seek them, stands outside the approval of educational opinion. More unfortunate is the camp that errs by carrying into its program the weaknesses and follies of some schools. Certainly the atmosphere of an "exclusive school" has no place in Nature's woods and lakes, nor should the snobbishness of classes or the vanities of privilege secure preferment in an environment of natural forces. The camp that justifies its training at all cuts right across the superficial, the exclusive, and the narrow in life, and seeks a spirit that is expressive of real values and worthy ends.

The summer camp has been justified in the minds of most people who consider it at all, because it administers to the health of the campers. Well directed and supervised exercise in all the natural racial forms has significant health value. The great out-of-doors of the mountains, forests, lakes, and rivers, gives a fine setting for baseball, tennis, volley ball, hiking, swimming, paddling, and horseback riding. Surely this is the program that Vittorino da Feltra dreamed of when he started his school at Mantua for the sons of Italian noblemen.

The summer camp may have a distinct contribution to make to the physical well being of its campers. Many camps, by systematic examinations and records, show in the campers an increase in weight, an increase in hemoglobin content of the blood, an increased muscular strength, and other indices of a valuable physical training. It is safe to say that most camps justify their program on the health standard; certain it is that the camp is unsuccessful and unworthy that neglects health in any way when the opportunity for improving organic power and strength is so favorable.

On the other hand, the summer camp has such unusual opportunity for character training that the importance and trend in this direction should be stated. In particular the girls' camp may make a distinct contribution in the training of girls, a contribution that is especially significant in these days. What it contributes in this direction will depend upon the attitude taken regarding the girls' relation to the camp program and the nature of the program itself.

From birth girls too frequently are trained, by commission or omission, to evade difficulties and avoid hardships. Children of either sex may be "spoiled" in this respect, but girls particularly are shielded and in many ways taught to seek the "easy way out." It is a rather interesting observation to note the reflection of this attitude in parents. If a baby girl falls in its first steps, the mother runs frantically to pick it up and, murmuring soft cooing sounds, seeks to distract from the rather startling and unpleasant experience of hitting the ground. When baby brother falls, the usual response from the parent is cheerily spoken: "Up we get! Didn't hurt! There, be a man!" The boy is encouraged to conquer unpleasant situations, bravely,

cheerily; the girl, too often, is taught to expect a rescuing hand. By the time she is in her teens, she is unwilling often to meet situations that have unpleasant aspects.

The unique educative opportunity that comes in a summer's camping should be seized and used to help the girl to self-reliance and power. The girl should be given an opportunity to share in hard situations, to meet difficulties without the sugar plums that buy performance, and to be rewarded with only the sweetening of splendid effort which overcomes and masters. Such discipline and training come as a part of the game that is played with nature, on long rivers that seem to have no end, in stormy weather that frowns dismally and gives nothing but rain, in winds that flatten tents and drive the smoke of the camp fire always in the wrong direction, in games that are in danger of being lost, and in races so keen and fast that she who wins must indeed have "heart" and courage. It must always be an unsatisfactory summer for a girl in camp if at some time during the season her tent does not go over, if she never knows what it is to rub a blister on her heel, if the extent of her paddling consists in drifting by the white birches while her tent mate plays the ukelele. The summer camp must not be a club or hotel in the mountains. There must come, at some time, something like the beating of hard rain in her face. It should be frequent enough for her to appreciate what it means to be chastized by nature.

There is nothing in this viewpoint of a girl's training that seeks to emulate the philosophy of John Locke, but there should be an opportunity to meet real situations without expecting someone to step in and "save the day," without hoping to give an excuse for non-performance, or without seeking to be judged by standards so weak and ineffectual that they cease to be anything more than the "aspirations of weak sisters." The girl should be carefully supervised in her effort. Medical and expert professional counsellors should control the situation to prevent overdoing in foolish ways and exposure in silly predicaments. The girl in a summer of real camping needs not less but more supervision than is usually given.

No less important than real situations in camping are the competitive games in which a girl battles for her team. A simple

illustration will make plain the importance of this training for her. A few summers ago, two boys were playing on opposite sides in a baseball game. They bantered back and forth throughout the game, adding zest to their play and intensity to the whole situation. After the game all the contestants went to the lake for the afternoon swim. The two boys who had so earnestly been opposing each other a half-hour before were standing on the dock with their arms on each other's shoulders. The girls were heard to remark, "Well, what do you think of that! Look there at . . . and . . . !" Because of the usual, narrow and incomplete training it is difficult for girls to understand intense opposition without personal antagonism. Girls, as a rule, take opposition as personal, are extremely sensitive to criticism, and refuse to play the game vigorously because of unpleasant personalities that may be encountered in the fray. For this reason, competitive games are most valuable and are vastly superior to all forms of dancing for girls. This is so because the girl to-day is growing into a world of affairs in which women are taking an increased share. In business, in the professions, in industry, the woman of to-day needs the sort of training that games can give.

The girl of the mid-Victorian period is gone, as far as our education is concerned. This day is calling for women who will accept responsibilities for children, for life, for all compelling situations, and who will meet the difficulties squarely, impersonally, and without excuse. The summer camp with an intelligent program will help the growing girl to secure this attitude. It will conduct its program and schedule its activities with these essential educative elements in mind; it will seek for her self-reliance, courage, and personal power. At no point does this mean the neglect of health or a loss of happiness. Now, the whole girl is considered, spirit as well as flesh. Physical health, alone, gives way to "Mens sana in corpore sano," and the happiness of ease and softness is forgotten in the joy of living Pierre de Coubertin's famous paraphrase, "Mens fervida in corpore lacertoso."

AN EXPERIMENT IN TEACHING IN RESPONSE TO CHILDREN'S QUESTIONS

By EDITH A. LINKE

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Introductory. Education in harmony with the philosophy of Professor Dewey and the conclusions of the leaders in educational psychology, embodied in a teaching procedure which is often spoken of as the problem or project method, demands of the class-room teacher a great number of changes and often a total reconstruction of her teaching technique. "The child as the center of gravity" necessitates the abandonment of many traditional teaching habits and attitudes and the establishment of entirely new connections and systems of connections in the teacher's nervous system. These readjustments are minute and detailed, as well as very numerous, and will require an intensive and prolonged process of refinement.

The perfection of a teaching technique adjusted to modern educational thought will be accomplished only by means of much experimentation on the part of class-room teachers in general. Reports of such experimentation conducted by capable and successful teachers must be made available to all teachers unless we permit ourselves to indulge in widespread waste through a process of isolated individual trial and error learning. Accounts of successful pieces of work in this newer procedure are sought eagerly by teachers who are striving to organize their own practice in harmony with the theory which emphasizes the importance of pupil activity in the teaching process.

The following paper by Miss Linke is one of a series of reports upon recent experiments conducted by advanced students in the Department of Elementary Education of Teachers College, which will appear soon in pamphlets or bulletins for the purpose of acquainting teachers with some of the many attempts to bring class-room practice abreast of the best educational theory.

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The aim of this paper is to show the results of an experiment in primary education based upon the following problems:

(1) Can we use children's questions as natural stimuli to projects?

(2) What development follows from these questions when the answers are worked out by pupils in the higher grades?

It is a commonplace that every child up to the age of nine years and even beyond is a personified question mark. Nevertheless,

not only is this spontaneous inquiry smothered by heedless parents but the very organization and practice of the school tends to inhibit this most vital asset in the teaching process. What is more natural than to start with the child's questions, his own feeble attempts to educate himself with our too often niggardly help?

To test this idea I encouraged the first- and second-grade children in my class room in Miss Chandor's School in New York City, to ask me questions. In order to ascertain whether or not the child had a vital interest in his question I always tried to find what had prompted it. Sometimes it was a summer experience, sometimes a war interest, occasionally a community interest. So many questions were asked that I felt that a community spirit might be aroused if the questions were given to the upper school and answered by older pupils during chapel. The principal heartily agreed, and I then suggested to the children to ask the upper school their numerous questions. They were delighted with the idea and suggested that the principal be consulted. A leader was chosen by the pupils to carry out this idea, and he quickly reported success.

HOW DO WE GET SILK?

Then followed questions of all kinds. One bright boy of seven asked, "How do we get silk?" He continued, "You know, the kind that hair ribbons and neckties and girls' sashes are made of and your dress,"—referring to my taffeta. The other children seemed to think this interesting; so, being a community interest with tremendous possibilities in the way of "leading on," it was selected as the question to be asked first.

The young leader asked the girls in chapel the following morning if they would be willing to answer questions put to them by the primary grades. A senior replied to this saying that the school would consider it a privilege to answer such questions. Then the question on silk was asked. A sixth-grade child volunteered an explanation, but failed to satisfy through lack of preparation.

In the third-grade handwork class we discussed the question and answer, and the third grade decided that the question had not been fully answered. One child decided to look it up in the

Book of Knowledge. She did so, consulting the science teacher for further information. After writing a short paper, which she copied voluntarily three times in order to make it legible, she submitted it to the English teacher for correction and then read it before the school. It was entitled "How We Get Silk." In connection with it she explained a silk-worm exhibit, procured from the Museum of Natural History by an eighth-grade girl. The teacher of mathematics contributed some raw silk from the yellow cocoon, and afterwards in their own class room the children examined it, heard about the "combing" process, and with hand lenses studied the exhibit while the science teacher told them many interesting facts. The children in the first grade were overjoyed when they deciphered the labels. They attempted to reel the silk, and later begged for strands to take home to show their parents.

HOW IS SILK MANUFACTURED?

The question was then raised by the primary children, "How is raw silk changed into the material that we know as silk?" The third year class volunteered to find out. One day the entire third grade gave before the school a talk on the manufacture of silk. It began with the silk-worm and ended with the dyeing process and an exhibit of the finished product. During the exposition a hand loom was shown and later minutely explained to the children in their class room. Of course they wanted to use it. As there was no other available material they used raffia and found themselves making matting. Then they demanded a doll house for the rugs. We decided to have one and to make everything in it for the Children's Hospital. One loom, of course, did not suffice. They begged for more. We procured the simplest type of loom with a heddle, and all of the first-grade children began to make rugs. First they designed them, then compared patterns, and then wove them. The second grade wished another loom like the model, as it went faster, so one of their number decided to copy the more complicated type. We compared looms and found the one first used by the Indians.

One day, while I was setting up the warp, the children divided into groups to assist in the process in order that it might be finished before they went home. We accomplished the work in a third of the time it would otherwise have taken. The result is

that when working on the loom three or four children run it, one holding the loom firmly, one using the heddle, while the third and fourth weave. This led one little girl to stand the loom on end one day and say that she thought if it were fastened to a box in that position it need not be held. This, of course, was just what was needed to set off a talk on factory machinery in that position.

The doll house, of necessity, had to be furnished with something besides rugs, so tools were ordered for making furniture. The children looked at the order book and discussed the best chest to buy. This was ordered, and when it arrived work began.

For the house, two egg crates were fastened together, making four rooms in all. The framework of the roof was erected and then work began in earnest. The children divided into groups. Some measured, some sawed; two directed the house construction and had numerous consultations as to the best plan of procedure. Some of the children made wall-paper designs which called for discussion, measuring, observation of home designs, and so forth.

While the children measured, sawed, nailed and papered, they became increasingly careful, through suggestions, that their products be as nearly perfect as possible. These standards became sufficiently generalized and of such interest to the children that they applied them in their other work, such as spelling and writing. The tendency towards efficiency in all other kinds of work was so pronounced that it was remarked upon by those interested in the experiment. Also much in the way of "give and take" was learned in these life contacts.

Some of the incidents that occurred show the curiosity that was aroused in the children. A second-year boy inquired about wood, asking why some wood is hard at one end and soft at the other. He had found that his nail would go through the white end more easily than the dark, and was eager to understand all about seasoning. This question carried over into the science department where he found the answers to his problems. This boy later brought his Chem-craft outfit to school, made ink for us, and then carried the box to the science teacher, who helped him perform some simple experiments for the class. Thus the curiosity and interest of another boy were aroused. This lad

wanted to know all about litmus paper and watched with keen attention the effects of alkalis and acids. He later induced his mother to get him a Chem-craft set for his birthday.

Fourth-grade children visited the room at recess. One of them said that she would like to know how all kinds of cloth were made "after the talk on silk." Soon after, the fifth grade visited us and showed great interest in the work-shop. Then, parents of the children began to visit us in order to see what we were doing, and they wholeheartedly shared the enthusiasm of the little ones.

TIN AND PAINT

To go back to questions. During chapel two questions were answered by fifth-grade children. One was "How do we get tin?" The other "How do we get paint?" The explanations made were a little too technical for the primary pupils to grasp, so, at recess, the children who had talked in the morning explained again the exact process, this time very simply. All of the children gathered round and listened attentively. The common interest and helpfulness created a bond of sympathy of the highest type between the middle and lower school.

The question about tin fitted into our work a little later on for we covered the ridge-pole of the house with tin before painting it and recalled the process of tin-making. The question on paint I shall refer to later.

The upper classes coöperated wonderfully in our work, as proved by the following incident: On March twelfth the fourth grade presented before the school a play growing out of primary questions. One child was a teacher, three were pupils. The teacher began: "Since the primary children are asking so many questions, let us see how many of you can answer questions about things you wear and eat." Then followed talks about textiles, candy, leather, etc., ending with abbreviations of states, asked as riddles. These piqued the little ones who could not join in the laughter of the older girls and they immediately wished to know the meaning of the riddles. This led to a little talk on geography.

The following day, doubtless as the result of the riddles, a first-grade child appeared with a large old-fashioned geography, and pointed out the picture of a primitive loom used by negroes in

German East Africa. The children compared it with their own loom with the heddle and found them similar. We then compared the methods of weaving of all primitive peoples, Indians, negroes, etc., and talked about Africa and how the negroes were used in the South in cotton cultivation.

HOW IS WOOL MADE INTO CLOTH?

Then came the question on wool. The day after it had been answered, a first-grade child brought a Brownie book, showing the shearing, washing, dyeing and weaving of wool. We compared these pictures with those in the *National Geographic Magazine* to which the children had access, and with the illustrations in the story of *Joseph*, which I began to read. The children showed keen interest in pastoral life and were eager to show their knowledge of wool and its uses.

To prove their appreciation of the help given them by the older children, the first grade presented two plays before the school.

COTTON

Then the question "How is cotton made?" was answered and an exhibit of cotton was presented to the class. We followed this by a summary of all the textiles known to the children. They classified them and we put them on the board.

When the upper school asked the primary grades to contribute to the school paper, some second-grade children chose the subject of textiles. Flax had only been touched upon when we closed, but doubtless it will be referred to next year.

PAPER

Later, at chapel, the little children asked the question, "How is paper made?" This resulted in a simpler talk to children at recess. The language to convey the exact meaning was carefully thought out and the fact that it was necessary to think carefully in order to get the meaning "across" was fully realized.

The following paragraphs show how valuable practical information grows out of the questions asked in chapel. One day the third grade became intensely interested in the window cut in the doll house, and suggested that they make curtains. As a

result of the unanimous vote of the class they took it upon themselves to make the house furnishings. They discussed articles, selected materials, visited a department store where they looked at samples, compared prices and quality, and bought goods, finally setting to work to make mattress, pillows, sheets, pillowcases, blankets, spreads, curtains and table cloths. In the meantime the second grade visited a paint shop. After looking over the various colored plates, they chose their color scheme for the house—body white with green roof and trimmings and a red chimney. They asked the owner of the shop all about turpentine, white lead, etc. He told one child who visited the store with me later about shellac and lac, and the following day that child retold it accurately to the rest of the class.

While discussing the painting of the house, as a result of the question, "How do we make paint?" one child remarked that she didn't see just how painting would teach them how to make paint. We therefore decided to make the white paint for the bed-room furniture, which we did just two days before school closed.

The house when practically completed was compared with other houses and other kinds of shelter such as the Eskimo igloos, Chinese houses, and Indian wigwams. In looking over pictures of these the children were particularly attracted by Indian life and wished to make an Indian village in the sand. Some of the first-year children cut out wigwams and colored them, one child using the northern lights as part of his design. We talked about Indians, read *Hiawatha*, which we greatly appreciated and finally found ourselves on the subject of foods, developed from the grinding of corn with mortar and pestle. We ground the corn, discussed the grain, its nutritive and economic value, visited the grocer's and bought corn meal which we cooked the following morning and enjoyed eating at lunch. The children were so delighted with this feat that they wanted it every day for lunch, demanded it at home, and stimulated parents to ask my advice as to what their specialist-reared children should eat! Other foods were discussed, especially milk, and the value of it in making bone, teeth and muscle, and in producing growth. In connection with the study of milk we visited a milk exhibit. This led to the desirability of maintaining normal growth, and the foundations

were laid for health charts next year, by which children can keep track of their individual progress.

In a discussion as to how the house was to be used after it was completed the suggestion was made that it be given to the Children's Hospital. This highly desirable social motive prompted the greatest interest in planning the various things that might please their sick friends. Some suggested sending crayons so that the children in the hospital could work out their own designs for wall-paper. Other children brought dolls in order to give the house "life."

This is just a simple story to show how questions will "lead on" to educative activities. The average amount of time spent upon the work was forty minutes a day.

The following is a summary of the results of the experiment with regard to the primary class room and to the classes above it. It is under six main headings: Information, Tools, Capabilities, Curiosity, Habits, and Attitudes.

As to the upper classes:

1. Information: The upper classes obtained information from getting the answers to the questions asked by the primary children. Those who took part in answering were obliged to go to sources for their information.
2. Tools: Language and writing were used in presenting answer.
3. Capabilities: Children who took part were chosen because of special fitness for their work.
4. Curiosity: Curiosity was aroused as to the work of the children and in regard to questions and connected interests, such as textiles, carpentry, etc.
5. Habits: Ability to speak extemporaneously and in public.
6. Attitude: A sympathetic binding together of the upper and lower school classes was brought about as the result of common interest and service.

As to the primary classes:

1. Information:
   - *a.* Food: Learned the value of corn meal as a wholesome article of food, equal to wheat in nutritive value according to latest reports, and the necessity of supplementing it with milk in order to promote growth.
   - *b.* Clothing: Silk; wool; cotton—knowledge of raw material, manufacture and use of these textiles.

c. Shelter: Comparison of different shelters, value of country life, air, light and cleanliness.

d. Tools and Machines:

(1) Use of carpentry tools—hammer, saw, compass saw, brace and bit, plane, screw driver, chisel, compass, sand paper, etc.

(2) Use and knowledge of paint, of turpentine, of shellac, etc.

(3) Use of the loom; an interest in machinery, in automobiles, and in their own human machine.

e. Utensils: Use of clay in making kitchen and dining-room ware.

f. Records: Incentive to knowledge of reading, writing, and spelling through desire to write letters to their friends telling of their work; the need of reading bulletins asking for special help; of reading labels on exhibits and written descriptions under pictures in geographies, etc. Realization of the value of books as sources.

NOTE. Grateful acknowledgment is due Mrs. Mossman and Dr. Bonser, of Teachers College, for the above organization of our common needs.

2. Subject Matter—Tools: Arithmetic, in constructive work; reading, writing and language as tools, language being especially emphasized as a medium of thought.

3. Capabilities: Scientific, artistic, or practical. The children soon showed their special talent and developed it.

4. Curiosity: The curiosity and "appetite for more" aroused in them along many lines will "lead them on," we hope, to still more complicated problems and through them to a big knowledge of the world.

5. Habits: An increase in efficiency and self-reliance.

6. Attitude: Joyousness in their work, so much so that some have returned to work in my office afternoons and have persuaded their parents to visit the school. A sense of individual responsibility for the good of the group, and coöperation, or the "give and take," so necessary in working together have made the year a very happy one for all concerned.

SUMMARY

One of the little people summed up this work in a casual sort of way one day when asked what he had learned besides just handwork and lessons. He said, "We have learned to think and we have learned to be with people and work with people."

Of course, without the liberality and coöperation of the principal and the other teachers of the school who developed the upper

grade projects, we would not have fared so well. As it was, we were a community, united in interest and effort. We seemed like a wonderful machine, each well-oiled part fitting easily into the next groove; all, principal, teachers, upper classes and primary, working together in smoothest fashion towards the accomplishment of the school's great purpose—the turning out of democratic, loyal and efficient women and men.

It will now be shown how children's questions, if answered in a liberal and informal manner, furnish the "set" or stimuli for another year's work and aid in developing further the work of the preceding year.

On the first day of school a second-grade child asked if we were not going to have questions again. She suggested a question box, which we decided to have. As a result of this question box the first-grade children have suddenly acquired a great incentive for writing, for no question can go into the box that has not been written by the questioner.

In order to make the answering of questions a more social affair, this year a committee of older girls chosen by the high school pupils calls for volunteers from the school to answer the questions selected. If preparation is necessary the committee advises in the matter of sources: teachers, books, or museums. This committee acts as a bureau of information to be assisted, we hope, before very long by a school librarian.

Questions of all kinds have been asked. One that is being saved for the psychological moment is, "How is goods made?" As a result of their interest in looms and rug-making carried over from last year, the first four grades are busy in preparing its answer though they know it not. They are working on looms, either making them or weaving on them. As a part of this work the first-year class, having sacrificed individual designs, is cooperating in the manufacture of a schoolroom rug made from individual contributions towards a general whole.

The second-grade children are making their primitive looms in order to make doll hammocks. These they intend to send to the Children's Hospital. They discovered the art of hammock-making when removing a half-finished rug from the loom.

The third-grade children are at present more interested in the mechanism of looms than in weaving, so they have chosen for

their work the construction of looms of the more complicated type requiring a heddle. This interest in the mechanisms and in machinery in general will become more intense when they see the fourth-grade class weaving a large rug for the primary classroom on a loom constructed by fourth-grade children.

As evidence of the interest of the parents in this work of their children, the father of a third-grade child, a woolen manufacturer, visited the class twice and expressed pleasure in this development of knowledge of economic conditions. We regret that his factories are in New England, but hope that he will give us a talk on the manufacture of wool and possibly give us an exhibit from one of his factories.

Having been informed by our third-grade teacher of a rug-making and silk-making exhibit to be held at the Museum, we have planned two trips to be taken by the first two grades and by the third- and fourth-year classes. Several mothers have expressed the desire to join us, others are going to be urged to do so by eager children. We hope that many will plan to go along, for our trip will then be a real coöperative undertaking.

We all know that the exhibit of Indian rug-making is at the Museum and that interest in Indians and their mode of life leads very easily into a study of Eskimos and their manner of living, into a study of our mode of living, and so on until we reach a point where another doll house is demanded.

The question "How is goods made?" will doubtless lead to a knowledge of all four textiles and kindle an interest in their manufacture.

Economic interests can connect up with and vitalize almost every department in the school, as is evidenced by the work of the fourth grade. This grade at present is engaged in work with bass wood as that is the kind of wood they must use in constructing their loom. The science teacher has told them about bass wood, what tree it comes from, where it is found, and why it is used. Later on the children will have to go to her for information about dyes, etc.

A feeling of need for arithmetic and help from their mathematics teacher is being aroused in these children, for they are faced with the problem of finding the dimensions of their looms from the small model which they are copying. Multiplication tables

and short division have already risen several degrees in their estimation, and before they finish the problem their teacher will be sought as a guide and friend who will make the solving of such problems easier for them.

Interest in industrial centers, in textile and rug-making, in community life of both past and present, with a vision into the future, will connect with geography and history, live subjects for live people. Descriptions of their work for various purposes will lead them into oral and written language. Rug-designing will demand coöperation with the art department. The necessity for warmth in clothing and furnishing will connect with the subject of health.

To go back to our beginnings, an older girl said that one of the happiest features of last year's work was the feeling of unity in the school brought about by contact with the primary children through their questions. This feeling of unity that was developed last year has resulted this year in the older girls having charge of the group games of the school. They make the little people very happy at recess by playing "London Bridge," "Drop the Handkerchief," "Cat and Mouse," "Three Deep," etc.

The spirit of mutual coöperation that exists is shown by the following incident. When the Red Cross drive was opened the little ones listened attentively to a talk given by an upper class girl and the next day every child not already a member of the Red Cross appeared with a dollar, some even subscribing for their dogs. Since then, by the way, we have had many Red Cross designs posted around the room to encourage subscriptions from visitors, and these designs have called for a good deal of reading, writing, and spelling.

This simple experiment of starting with the live interests of children has proved of tremendous value, for it shows how closely interrelated everything is in modern life and how by observing carefully we can lead the child from economic interests into subject-matter and from subject-matter into economic interests in such manner that, impelled by a drive so strong that he overcomes any obstacle in order to attain his goal, he is constantly reaching out for more information. His thinking also becomes so sharpened that he makes decisions only after careful deliberation. His judgments are based upon many past experiences obtained in a free social atmosphere where, in order to maintain social jus-

tice, toleration has been found to be a requisite. As for the child's individual talents, such wealth of material is offered to him that he is able to seize upon his special interests and develop, under guidance, his own peculiar gifts to be offered eventually to the service of humanity.

Do children's questions lead on into a knowledge of life and that subject-matter that is legitimately demanded of the elementary school? That they do is shown by the above cited incident, showing how a small question on silk led into every phase of human activity.

In conclusion, through questions answered in a liberal and informal manner, the child, out of a chaotic mass of early impressions, gradually unwinds for himself the threads of life, and finds himself united with his brother in common aims, interests and ideals. Through this development in response to felt needs, we obtain democratic citizens, people of good judgment, tolerant, sympathetic, creative, interested in life and in life's problems.

TWO SUCCESSFUL SCHOOL CAMPAIGNS

By SUE L. FRATIS and ELIZABETH ARLETT

Oakland Public Schools, Oakland, Calif.

Raising Bonds for School Buildings

Introduction. The public school system of America is in a very critical situation. The schools not only face a shortage of teachers and inadequacy of financial support, but there is imminent in every populous community in the country the threat of control of the schools by the political groups contending for power and personal gain in the governmental machinery. No more inviting fields for political exploitation exist than the budget of the schools and the long list of employes of the public school system. The control of either is a most desirable political plum, and the political groups contending for power and personal gain in every large city have by no means overlooked the opportunity. School administrations, professional organizations of teachers, and, most of all, the instructional policies of the schools are the objectives of insidious political attack carried on for the sake of control for exploitation.

There is one sure defense against this danger, one sure guarantee of the integrity and efficiency of our school system; namely, the public sentiment of every community that believes in public education. This sentiment is always divided in its general political alignments and always inactive as a positive force unless rallied to an issue, or stimulated by some vitally interested internal force. That this sentiment can be united and brought into active support of a constructive program for the schools is evidenced by the many recent campaigns made by teachers' organizations in various sections of the country for salaries and for more generous financing for the physical plant.

Exemplary illustrations of this are to be found in the two campaigns carried on by the teachers of Oakland and Alameda County, California, herewith described by two of the leaders in both campaigns.

Fred M. Hunter,
Superintendent of Schools,
Oakland, California

In 1917 it became apparent that Oakland was fast outgrowing its school buildings. A representative advisory bond committee was appointed by the Board of Education to coöperate with them in determining the school needs of the city. This committee did diligent work for more than a year and the final amount of $4,975,000 was based upon their findings. The amount seems unduly conservative to those closely connected with school

interests, but is probably sufficient from the point of view of the conservative citizen.

The amount called for was clearly and definitely distributed by the Board of Education as to its manner of expenditure. The necessity for the bond issue was shown as follows:

Number of pupils in crowded classrooms	10,000
Number of pupils in temporary portable structures	8,000
Number of pupils who quit school because of overcrowded conditions	2,000

While Oakland's school population is increasing by thousands yearly, but one building has been constructed in five years.

The building program provides for 14,600 additional pupils divided as follows:

High school	3,600
Upper grades of junior high schools	2,100
Lower grades of junior high school (7th and 8th grades in elementary schools)	4,300
Elementary grades	4,600

The bond issue provides for:

New high schools	3
Additions to present high schools	2
New junior high schools	6
First units of schools capable of further extension	2
Americanization or community schools	5
New elementary schools	5
Additions to present elementary schools	6

The publicity campaign was complete, and exhibited such vitality and growth as might be expected when the brains of thousands of children and teachers were all at work supplementing the suggestions from headquarters.

A thirty-two page pamphlet outlining the building plan had been prepared for publication, but funds were lacking. This initial disappointment, however, was lost sight of as the campaign progressed. Much of the material became very useful for publicity purposes.

The schools have been accustomed to give to every child monthly a copy of *Our Public Schools*, a publication designed to keep the home in touch with the schools. This paper was issued weekly for one month as an organ for the bond publicity committee, one edition being devoted to elementary school needs, one

to junior high school needs, one to high school needs and a fourth to Americanization school needs, each containing definite information regarding the proposed bond issue. About 42,000 copies of each of these editions were printed and distributed. These became the basis of study by the pupils and were finally distributed in the homes.

In so far as possible, the work of classes in the city, both in grammar and high school and from the kindergarten up, was motivated and vitalized for the period of four weeks by a study of building conditions and needs for the school system of Oakland.

The School Women's Club of Oakland was asked to take the initiative in working with the Parent-Teacher Associations of the city in arranging for two meetings in every school building—one for the afternoon and one for the evening. A program was to be furnished in each instance by the children of the school and a bond campaign speaker was to be sent from the office of the superintendent. Prominent business, club, and professional men and women assisted in this speaking as well as the superintendent and his assistants and members of the Board of Education and of the teaching force of the city.

It was found advisable to furnish newspaper advertising but no funds were available. The School Women's Club volunteered to solicit subscriptions from the teachers of Oakland for this purpose and raised over $2,100 within a few days. Thereafter not only was newspaper advertising obtained but an increasing warmth of support on the part of newspapers was very noticeable. Merchants of the city included in their regular advertisements in the daily papers recommendations for the bonds and wrote public letters of endorsement. The merchants offered five $25 prizes for various publicity features furnished by pupils of the schools.

Each school prepared and displayed one or more large signs, "Vote for School Bonds" and also many posters and banners. Pictures of actual conditions in Oakland schools were taken and shown in the motion picture houses and two 4-minute reels showing conditions were prepared and displayed throughout the city. Posters for street cars and automobiles were prepared and distributed by the members of the Junior Chamber of Commerce.

The directors and supervisors prepared bulletins on ways in which the school bond campaign should be the basis for school

room work. Personal letters were written to ministers, priests, and prominent professional and club men and women throughout the city.

The following requests were also made:

1. That each child in the school be instructed to do three things:
   a. Ask his father each day to remember to vote for school bonds on October 21.
   b. Make the same request of his mother each day.
   c. Make the same request of one other person each day.
2. That each child place under the breakfast plate of each voter in the home on the morning of October 21 a note reminding him to vote for school bonds on that day.
3. That all Oakland teachers, pupils of 7th and 8th grades, and high school pupils form a telephone chain and call up five friends reminding them to vote for school bonds on October 21 and asking them to call up five more delivering the same message.

A committee of principals arranged for two parades—a local parade for each school and a general parade for the downtown district. These parades were wonderfully interesting to the pupils and impressive in so far as the public was concerned. As far as possible all children took part in the local parade. In the general parade aside from a somewhat extensive stunt provision in which floats appeared carrying smaller children, only older children participated. The general parade was a great success, children marching in from four directions and at the five corners in the center of the business district of Oakland joined their lines of ten each so that down the main street of the city they passed forty abreast, forming a sea of color and banners that proved quite irresistible. About 17,000 children were in the line of march. The dailies of both Oakland and San Francisco on the next morning—the morning of the election—gave a full page or more to the event.

Public interest grew rapidly during the campaign as was shown by the increasing attendance upon the public meetings. On the Friday evening preceding the election, when the last series of meetings in school buildings took place with 10,000 adults present, the sentiment in favor of the bonds was practically unanimous. Altogether over 28,000 adults heard the messages delivered by bond speakers. One adverse feature of the situation

proved to be the legal requirement that polls open at 8 o'clock and close at 6—an hour which cut out some 30,000 commuters from the privilege of voting.

The publicity campaign was managed by a committee composed of the superintendent of schools, the publicity manager (a man employed for the purpose) and three other people chosen for the campaign work. This committee met every morning to consider the program of the campaign. They formed a clearing house for the various suggestions coming from every part of the field and made the campaign a well ordered and progressive scheme culminating in the final parade and general newspaper publicity and the individual work of all the pupils in the city.

The bond campaign, as a whole, was founded on the belief that it is the right of the American voters to be informed. Bond campaigns frequently fall down because people do not really know or appreciate what it is all about, or they succeed by means of a minority of voters so small as not to represent truly the interest the city holds in educational matters. Advertising is not merely a means of promotion. It is an absolutely essential means of getting information over to the people, and without this information they cannot intelligently cast their ballots. The school authorities also profoundly believe that while taxes are soaring along with prices and while the street and fire departments and the police department must be cared for adequately, nothing is so vital as provision for the education of children and no excuse need be entered or apology made for demanding the best the community can offer for the schools.

The result of the election was four to one in favor of the bonds. The actual vote cast was 16,402 for elementary and 16,294 for high school bonds. They stood 13,182 in favor and 3,220 against the elementary school bonds; and 12,907 in favor and 3,387 against the high school bonds. Oakland's decision in this very important matter makes it possible to proceed with a building program that will eventually give all the children of the city equal educational opportunities.

A Campaign for Increased Salaries

In the early part of 1919 it became evident that teachers in all parts of Alameda County were planning to ask for an increase in

salary. In May, representatives from nearly every teachers' organization in the county met in the Oakland High School and decided that concerted action was needed. They unanimously voted that the proper educational body to handle the campaign was the Alameda County Educational Association whose membership (some 1,700) was nearly 100 per cent of the teachers in the county which includes Oakland, Berkeley, and Alameda.

Accordingly, a committee of sixteen association members, known throughout this campaign as the Publicity Committee, was appointed and given full power to direct all activities. The personnel of this committee was the nine members of the executive committee of the Alameda County Educational Association, and seven teachers representing the kindergartens, the elementary and high schools.

The following lines of action were decided upon:

1. That a publicity fund be secured by taxing every teacher $2.50.

2. That petitions, signed by every teacher, be sent to the board of supervisors of Alameda County, asking them to raise the county general tax rate from 27 cents to 45 cents, this increase to be used entirely for the raise in elementary teachers' salaries.

3. That the teachers of Berkeley, Alameda, and Oakland petition the board of supervisors to increase the high school and kindergarten tax rates, according to the needs of the respective cities.

4. That the teachers of Berkeley, Alameda, and Oakland petition their respective boards of education for an increase in salary, the amount of which had been agreed upon by *each locality*.

5. That the teachers of Berkeley, Alameda, and Oakland petition their respective city commissioners to increase the tax rate to meet the required increase in their salaries.

6. That the following petitions be circulated by the teachers in order to prove to the tax levying bodies that the people were willing to have the tax rate increased:

   a. Petitions among voters, taxpayers and citizens of the county, requesting the board of supervisors of Alameda County to increase the tax rate as designated in the petition.

   b. Petitions among voters, taxpayers and citizens of the cities, requesting the councils of Berkeley, Alameda, and Oakland (respectively) to increase the city tax rate.

7. That other endorsements be obtained in the following manner:

a. By sending letters to prominent business, professional and club men and women, requesting their signatures to an enclosed letter to the tax levying bodies.

b. By sending similar letters to the churchmen of every denomination.

c. By sending similar letters to all residents of Alameda County having property at an assessed valuation of $10,000 or more. (List obtainable from assessor's office.)

d. By sending similar letters to all labor unions, fraternal organizations, corporations, business firms, improvement clubs, women's clubs, chambers of commerce, the Rotary Club and other civic bodies.

e. By personally interviewing the heaviest taxpayers in order to obtain their endorsements.

8. That a special representative from the Alameda County Educational Association be delegated to have charge of the country districts, to make a personal study of the various situations, to interview school trustees, and to attend to the circulating of the petitions to the board of supervisors.

9. That a publicity firm be employed to direct publicity throughout the entire county through newspapers, movies, posters, slogans, etc.

10. That office headquarters be established and a stenographer be employed.

11. That an auditing committee be appointed by and responsible to the Publicity Committee. That this committee budget the funds and audit all accounts (this being absolutely necessary to any campaign handling money).

Much was accomplished by following the above plans:

1. A publicity fund of a little more than $4,000 was raised.

2. The petitions, signed by the teachers, to the board of supervisors of Alameda County, to the respective city commissioners and boards of education, were formally presented by delegations of teachers.

3. Through a personal canvass the teachers secured approximately 70,000 signatures to the citizens' petition to the board of supervisors of the county. About 47,000 signatures were secured in Oakland to the petition presented to the city council, and in Berkeley and Alameda about 7,000 respectively. Whenever a

petition was presented, the president of the Alameda County Educational Association introduced the delegation and the speakers. Hundreds of letters of endorsements for county and city increase were sent to the publicity headquarters, and forwarded from there to their respective designations.

4. Petitions from the boards of school trustees of the country districts, asking for this increase in the county tax rate from 27 cents to 45 cents, were also presented to the board of supervisors.

5. Headquarters were maintained during the months of June, July, and August. Various local committees, directed from headquarters, handled the details of the campaign in their respective communities, reporting regularly of the progress made.

6. A fund has been reserved for a follow-up campaign in the outlying districts. The plan is to see that the increase in the school funds resulting from the increase in the county tax rate be applied only to increases in teachers' salaries. The representative for the rural districts has charge of this work and a detailed statement will be issued later.

The Salary Campaign of Alameda County was 100 per cent successful. Confident that they were carrying out the wishes of their constituents, because by *uniting professionally* the teachers of this county had been able to create a public sentiment in favor of a higher tax rate to increase their salaries, *all* tax levying bodies granted in full the requested tax increase.

COLLEGE NEWS AND DEPARTMENTAL NOTES

TRUSTEES

The Trustees, at their meeting on Thursday, November 13, 1919, voted to purchase Janus Court, an eight-story apartment house on the corner of Morningside Drive and 121st Street to be used for dormitory purposes. This purchase with that of the Bancroft, last June, together with the additional space taken over by the College in the Lowell apartment house, increases by approximately 800 the number of students who can be accommodated in the College dormitories.

The Trustees have created the office of provost of Teachers College, and have appointed to the post Professor Clifford B. Upton, secretary of the College. Provost Upton is associate professor of mathematics, and holds also the office of director of the Bureau of Publications of Teachers College.

Dr. Walter H. Eddy, associate in physiological chemistry, has been appointed by the Trustees assistant professor of physiological chemistry. Dr. Eddy has recently returned from France, where he served fifteen months with the A.E.F. as major in the Sanitary Corps, in charge of the food section.

Teachers College has received a legacy of $15,000 from Mr. James H. Jones, who for many years was an annual contributor for the support of its work; one of $5,000 from Mrs. Eliza M. C. Anderson Lawton, to found in the College a scholarship as a memorial to her father, General Robert Anderson; one of $50,000 from Mrs. Mary J. Kingsland; and a gift of $5,000 from Dr. and Mrs. William T. Morrey, to found a scholarship to be known as the Henry Doherty Morrey Scholarship, in memory of their son. The scholarship is to be awarded annually to a pupil in the Horace Mann School for Boys.

By resolution of the Trustees, the salaries of all members of the administrative and instruction staffs of Teachers College and the Horace Mann Schools were increased 20 per cent, and of the

clerical staff who are appointed for full-time service, 10 per cent. This increase went into effect on November 30 of the current college year.

BIOLOGY

Professor Bigelow spoke before the New Jersey science teachers at Rutgers College in November on "Social Science Education."

On December 10 Professor Bigelow spoke at the Central Ohio Conference of Educators, at Delaware, Ohio, on "Preparation of Teachers for Sex Instruction." This conference was conducted under the auspices of the United States Bureau of Education and the United States Public Health Service in conjunction with Ohio Wesleyan University, the Delaware public schools, and the Delaware Health and Welfare League.

EDUCATIONAL ADMINISTRATION

The department of educational administration of Teachers College, in accordance with the new plan of conducting professional courses adopted at Teachers College, has been carrying instruction into the field of actual school work as it is now being done in New York City and vicinity.

Classes in educational administration have already visited the Murray Hill Vocational School for Boys; Manhattan Trade School for Girls; New York Parental School, Flushing, L. I., New York Children's Hospital and Schools at Randall's Island, for the purpose of observing the instruction of the mentally subnormal children; Bureau of Attendance of the New York Public Schools; Annual Business Show at the 69th Regiment Armory, in order to see the new types of equipment which may be used in business offices; Saunders Trade School, Yonkers, N. Y.; Vocational School No. 100; State Agricultural School, Farmingdale, L. I.; Public School No. 43; High School of Commerce and the American Museum of Natural History where the group spent half a day in studying the use of moving pictures in connection with school work.

This method of supplementing the courses in educational administration seems to appeal strongly to the students. They feel that they are enabled to study from a new point of view

how educational problems are being actually worked out in and about the city of New York. These educational study excursions also prove stimulating in that they raise a large number of real problems in the minds of the students.

At the present time, one of the classes in educational administration (Education 403) is working on the project of equipping "a thousand point school." In order to get suggestions to determine whether or not the equipment now being used is satisfactory, the class is making a number of visits to places where school equipment and school furniture may be observed.

A revised Score Card for City School Buildings together with a revision of the detailed standards, according to which school buildings are rated, has been recently prepared by Professors Strayer and Engelhardt. The same authors have prepared a Score Card for One to Four Teacher Schools and detailed standards, according to which such buildings may be measured. Both of these score cards and the detailed standards have been published by the Bureau of Publications, Teachers College.

Professor Engelhardt and Dr. E. S. Evenden have recently prepared for the Interchurch World Movement of North America, a Score Card for Measuring City Church School Plants. This score card with its detailed standards may be secured from the Interchurch World Movement, 18th Street and 6th Avenue, New York City.

Dr. Evenden recently addressed the State Federation of School Directors of New Jersey at their annual meeting at Trenton. The subject of his address was "Better Salaries for Teachers."

EDUCATIONAL PSYCHOLOGY

Professor E. L. Thorndike was one of the two speakers before the Association of Colleges and Preparatory Schools of the Middle States and Maryland on November 28 who presented the facts concerning psychological tests of intellect as a method of admission to college.

At the annual meeting of the New York Academy of Sciences, held December 15, Professor Thorndike was elected president of the academy for the coming year.

Professor Leta S. Hollingworth addressed the Section for the Study of Retarded Children, at the annual meeting of The

New York State Teachers Association, at Albany, on November 24. The subject of the address was "Special Disabilities That Contribute to Retardation in School Status."

A recent New York State law for the care of the feeble-minded makes provision for an examination of mental defectives by psychologists. In order to qualify as an "examiner for mental defect" under this law, one must have had two years of graduate work in psychology and three years experience in a psychological clinic. The following members of the Teachers College staff or former students have already qualified: Professor L. S. Hollingworth, Dr. Katharine Murdoch, Professor Truman L. Kelley, and Dr. Lorle I. Stecher. Several others will qualify in the near future.

The department of educational psychology is preparing an announcement of the courses given at the College, for the training of teachers of subnormal children. These courses have not hitherto been brought together in any systematic form.

Professor Whitley is giving a brief course in child psychology in extension work at Columbia University for the members of the New York City Sunday School Association. She is also working on four committees in connection with the Sunday School Association. A set of tests on Biblical knowledge is in preparation, and should be available in a few months. They will be applicable to Jews, Catholics and Protestants alike.

ENGLISH

Professor Baker addressed the Mercer County, New Jersey, teachers at their monthly institute in Trenton on November 7. During Better English Week, he spoke at Williamsport, Pa. On November 26, he spoke before the National Council of Teachers of English at Boston on "The Visible Supply of Well Trained Teachers of English for Colleges."

Professor Allan Abbott, who has been on leave since June, will return for the second semester. He has spent the summer and winter in the west traveling and lecturing.

Miss Clara L. Rhodes has joined the English staff this year. Miss Rhodes is joint editor with Professor Broadhurst of *Verse for Patriots*.

The increase in registration for English A and B this year is unprecedented. About two hundred students are enrolled in the elective courses.

FOODS AND COOKERY

On two evenings a week from October 15 to November 24, the department of foods and cookery conducted free for Teachers College students a course of twelve lessons in kitchenette housekeeping. The following topics were treated: planning the meals, marketing, care of food and kitchen and actual preparation of food, with demonstrations. Professor Van Arsdale was chairman of the house committee.

Miss Van Arsdale spoke for the Council of Farms and Markets at the monthly meeting of the Women's City Club. She is chairman of the food committee of the Women's City Club.

Miss Shapleigh has recently returned from a visit to Cleveland, where she gave a lecture and demonstration under the Cleveland Board of Education. Miss Shapleigh is chairman of the house committee of the Teachers College Country Club.

Mrs. Gunn is conducting the food department for *McCall's Magazine.*

Miss Elsa Frame, formerly an instructor of the department, is now in charge of the practice house at Pine Manor, Wellesley.

Miss Florence La Ganke, formerly a member of this department and the department of household administration, has gone to Oakland, California, to take charge of the home economics work in Oakland.

Miss Marion Dickenson is teaching large quantity cookery since she obtained her degree at Teachers College. She has organized the food department and dormitory at Connecticut Women's College.

Miss Elizabeth Guilford, formerly on the department staff, has returned from canteen work with the Young Men's Christian Association abroad and is now doing administrative housekeeping at the Carroll Club, New York.

Miss Day Monroe has been overseas since last January in charge of hostess houses for the Young Women's Christian Association. For several months she has been directing a

hostess house, formerly the Palais Royale Hotel, and is expecting to stay abroad until the house closes in April.

Miss Anna Barrows returned to New York on November 1. During the summer of 1919 she conducted classes and lectures at Chautauqua and has since been writing articles on foods and cookery subjects for the *Delineator*, *Ladies Home Journal* and *Pictorial Review*. She has also been lecturing to various women's clubs.

The department is considering several new courses which will be announced for the Summer Session. A short course in festival cookery, as a contribution to an Americanization program, is being contemplated.

Mr. Lund, of the United States Department of Agriculture, spoke before Cookery 1 on November 24 regarding his activities in home extension work abroad under the auspices of the French Department of Agriculture and the American Committee for Devastated France.

Mr. Herschel Jones, of the New York office of the New York State Division of Foods and Markets, addressed Cookery 1 on "The Food Economics of a Great City" and told what the Department of Farms and Markets is doing for the consumer in New York.

The department attended the fruit auction of the California Fruit Growers on October 29, in connection with its study of some of the city marketing problems.

Miss Colman joined the excursion of the Community Councils to the cold storage warehouses conducted by the New York office of the New York State Department of Farms and Markets.

Professor Van Arsdale attended the meeting of the New York State Federation of Women's Clubs at Elmira and represented the Council of Farms and Markets at the home economics section of the meeting. In connection with her work as a member of the Council of Farms and Markets, Professor Van Arsdale has attended various hearings on the cold storage question and on the milk question being held in this vicinity by the council.

HISTORY

Professor Gambrill participated in two days of conferences on history and the social sciences at the Educational Congress held at Harrisburg by the State Education Department of Pennsylvania during the week of November 17.

At the meeting of the History Teachers Section of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at the University of Pennsylvania on November 29, Professor Gambrill spoke on "History Teaching as Propaganda in Dealing with After-War Problems."

HOUSEHOLD ARTS EDUCATION

The students of the department of household arts education are coöperating in the work of the nutrition and homemaking center at the Morningside Center, 126th Street and Amsterdam Avenue. Their work consists in home visiting and the organization of groups of homemakers for the purpose of discussing problems in relation to homemaking. Because of its close contact with home problems, this makes an unusually valuable project for students in this department. The nutrition and homemaking center is under the joint direction of the home economics committee of the Charity Organization Society and Teachers College.

The department is also coöperating in the great national movement for health education by emphasizing the relation of food and clothing and home conditions to the health of individuals and the community. As a means towards this end, the supervisors of practice teaching, in consultation with the department of physical education, have formulated a scheme for weighing and measuring the children of the classes in household arts at Public School No. 43, and are considering the factors in relation to food, clothing, and homemaking which affect the health of girls of this age. This work has only begun, but there is keen interest in the project.

Professor Winchell attended a meeting of the Committee on Reorganization of Home Economics Studies in Secondary Schools, which was held in Chicago, on November 5, 6, and 7. Following this conference she attended the council meetings of the American Home Economics Association, of which she is secretary.

On November 25, Miss Winchell spoke before the Home Economics Section of the New York State Teachers' Association in Albany on "Professional Improvement of Teachers in Service."

Miss Winchell has been appointed a member of the Public Health Committee of the Neighborhood House Association, New York City. She is also a member of the National Committee for Teaching Citizenship, and a member of the Board of Council of the Eastern Arts Association.

HOUSEHOLD AND INSTITUTION ADMINISTRATION

A New Bureau of Interest to Institution Workers: A hospital and institutional Bureau of Consultation is being organized at 284 Fourth Avenue by Mr. Henry C. Wright, formerly of the Russell Sage Foundation, now a lecturer at Teachers College. Through a competent staff of workers this bureau will be equipped to give information on plans and equipment of institutions to be built, and also on the organization and operation of institutions already established. From this bureau may also be obtained suggestions in regard to food conservation problems. There appears to be the growing need for service that such a bureau can give. In the various phases of housekeeping and food service for larger groups, there is very frequently need for advice from experts who are in touch with recent developments and who are making a careful study of better standards and methods of organizations and control.

Miss Balderston gave lectures during November on "Laundry Equipment" at New Jersey College for Women, New Brunswick, N. J., and on "Household Management" before the combined Women's Clubs of the Oranges, N. J.

A new course of fifteen lectures on lunch room management with discussions is being given in New York University by Miss Elizabeth H. Bohn, a graduate of the department of institution administration. Some of the topics considered are: benefits of company lunch rooms; food requirements and standards; accounting; equipment.

KINDERGARTEN AND PRIMARY EDUCATION

During November Professor Patty S. Hill lectured at State Teachers Associations in Indianapolis, Omaha, St. Louis, and Des Moines. At the Chicago Art Institute Professor Hill also spoke on "Play as an Aesthetic Experience." A tea was given

for Miss Hill by the graduates of the department of lower primary education in Chicago at the Woman's Club. Professor Hill also spoke at the Kindergarten-Primary Association in Milwaukee.

Miss Grace L. Brown addressed the Kindergarten-Primary Section of the Maine State Teachers Association, October 31, on "Experiments in Early Education." Miss Brown also spoke before the Kindergarten Section of the New York State Teachers Association.

Miss Annie E. Moore spoke at the Connecticut State Teachers Association at New Haven and South Norwalk, and before the Education Society of Baltimore.

Miss Agnes Burke addressed the Kindergarten-Primary Section of the Vermont State Teachers Association, at Burlington. At the Kindergarten Association in Springfield, Mass., Miss Burke spoke on "The Project Method." She spoke on "Games" at the Kindergarten Association, at Trenton, N. J., and on "The Project Method" before the Public School Kindergarten and Primary Teachers of Holyoke, Mass.

MATHEMATICS

Professor Smith addressed the teachers of mathematics at the State Educational Congress held at Harrisburg on November 19. He also addressed the Mathematics Section of the State Teachers Association at Albany on November 25. He has been reappointed as the head of the Experimental Examination Board of Girls' Schools for the current year, and as member of the Examination Board of the New York State Department of Public Instruction.

Professor Upton was elected provost of Teachers College at the November meeting of the Trustees. He will continue his courses in the department of mathematics.

Professor Smith, Miss Blair, and Mr. Schorling are all members of the Committee on Mathematical Requirements appointed by the Mathematical Association of America, which held its meeting at Teachers College on December 30.

Professor Smith was re-elected librarian of the American Mathematical Society at its meeting held in New York on December 30. He has accepted this re-election with the under-

standing that he shall be relieved from the duties of the office at the expiration of the coming year.

The students in the History of Mathematics were given the privilege of visiting the home of Dr. George A. Plimpton and of examining his remarkable library on December 12.

MUSIC AND SPEECH

During the fall semester the department of music and speech gave an interesting series of recitals, commencing with the Arntzenius sisters who gave a recital of Dutch folk songs in costume, with some dancing. It resembled somewhat the charming recitals given by the Fuller sisters some years ago.

The second was a song recital by Mr. Jolliffe, who has returned from a year's service in the Canadian Y.M.C.A., in which he had the rank of a lieutenant. While with the Y.M.C.A. he gave a great many musicales and had charge of the organization of entertainments for the soldiers.

This was followed on December 8 by a Scandinavian concert by Mr. Soderquist, introducing some Swedish folk songs accompanied by some description. Mr. Dan Dickinson and Miss Alix Young-Maruchess gave a recital of chamber music with violin and piano. Mr. Dickinson is a former student of the department.

The following week Miss Gainsborg, a former student in the department, gave a song recital of South American and Spanish songs and folk songs. Miss Gainsborg did work for the government during the war in the Spanish branch of the informational department.

The series ended with the general singing of Christmas carols. During January a series of student recitals will be given. This will afford an opportunity for practice in playing before others and will give the friends and teachers of the students an opportunity to judge of their work.

Mr. Kraft prepared music for the Interchurch Festival given in Madison Square Garden December 15 to January 15. Some of the music that he prepared for the Methodist Centenary last summer in Columbus was used in New York.

On November 5 and 6 Professor Farnsworth gave three lectures in St. Louis, one before the general meeting of the Missouri State

Teachers Association on the subject of "Music and Wholesome Living," one at the meeting of the music section on "Taste and Technic," and the third before the Industrial Arts Exposition on "Music and the Other Arts."

PHYSICAL EDUCATION

The annual convention of the National Physical Education Association of America will be held in New York April 7–10, the first time in fifteen years. This offers an opportunity for the department of physical education to present to the physical educators of the country a phase of the work for which Teachers College has stood for many years and which is just beginning to be recognized by the country at large—the value of dramatic expression in physical education.

At the opening meeting of the local Physical Education Society this year the subject presented was "The Physical Basis of Expression." The discussion of the education of the emotions, by representative people of the theatrical profession, was well handled and convincing, but the practical demonstrations were not to the point and failed to make the necessary connection with physical education.

This department has offered, as a part of the convention program, to revive "The Conflict," a hygiene play in pantomime, which was given here seven years ago. The subject is especially adapted to the interests of the convention, besides providing the best possible vehicle for physical training activities. The production will be directed by members of the course in Dramatic Expression in Physical Education with the coöperation of the whole department. All students majoring in physical education will be given an opportunity to take part.

Special attention is being given this year to the offering of courses in physical education for men. There are eleven men registered in the department. An attractive program of courses for men is planned for the Summer Session of 1920.

Professor Wood spoke on October 30 before the Maine Teachers Association at Portland, Maine; on November 6 and 7 before two sections of the Kansas State Teachers Association at Wichita and Pittsburg, Kansas; on November 14 before the New England

Association of School Superintendents at Boston; and on November 25 before the National Committee for the Prevention of Blindness on "The Contribution of the Schools to the Conservation of Vision."

RECREATIONAL LEADERSHIP AND SCOUTING

Seventy-five students of this department hiked to Smith's Log Cabin, Staten Island, on November 1. Wood-chopping, fire-making, and fire-building had a place in the program; but the camp-cooking demonstration by Chief Sea Scout James A. Wilder and the barbecuing of two sheep proved the most popular events.

The Workers with Boys intensive course given in coöperation with Mr. C. J. Atkinson, executive secretary of the Boys Club Federation, from October 20 to November 21, included a number of speakers of national reputation.

Professor Fretwell has finished his work as national director of recreation for the American Red Cross and has returned from Washington to his work in Teachers College.

Mr. C. F. Smith has aided in conducting the Boy Scout courses in Yonkers, N. Y., Bridgeport, New Haven, and Waterbury, Conn., as well as at the Sectional Conferences for Scout Executives at Memphis, Tenn., Flint, Mich., and Bear Mountain, New York.

Dr. H. W. Hurt, who recently received his degree at Teachers College, is at National Headquarters, Boy Scouts of America, as editor of the new *Scout Masters Hand-book*.

Members of the course in Recreational Education are cooperating with Mr. Small, of the New York City History Clubs, in organizing history and civic clubs in greater New York. Members of this course and of the course in extra-curricular activities have visited the Juvenile Court to study the work of the Big Brother Movement. They have also visited the Boys Club and the Neighborhood Playhouse.

SECONDARY EDUCATION

A group of twenty-five principals of high schools in and near New York is meeting monthly for the third year with the department of secondary education for the discussion of problems of

administration and supervision. At the first meeting this year Professor Briggs led a discussion of the question, "Should we expect our pupils to remember what they are taught?" At the second meeting Principal Alder, of the Adelphi Academy, and Principal Best, of the Plainfield, N. J., High School, told what their experience with the education of the American soldiers in France led them to believe should be done in reforming the secondary school. At the third meeting Mr. Raleigh Schorling, of the Lincoln School, led the discussion on "The New Program for Introductory Mathematics."

Professor Briggs addressed the New York High School Teachers Association at its December meeting on the topic "The Effect of Intermediate Schools on the Senior High School."

By invitation of Harvard University Dr. Julius Sachs, emeritus professor of secondary education, spoke on December 13 at the Fogg Museum of Fine Arts on French painting. He gave a literary review of the eighteenth century paralleling the art development of that period.

Dr. Sachs gave during the months of December and January a unit course on Education for Recreation. It was largely attended. Following the lectures Dr. Sachs conducted the class to see the treasures in several of the museums of the city.

On October 25 Professor Romiett Stevens made an address before a conference of Vassar alumnæ on the training of teachers in academic colleges. Following her study recently published in the TEACHERS COLLEGE RECORD, Professor Stevens has undertaken for the United States Bureau of Education a study of the work of advisers of girls in the high schools of the country. This study will be published as a bulletin by the Bureau.

At the December meeting of the New York Society for the Experimental Study of Education Professor W. A. McCall spoke on "Reading as a Barometer of School Efficiency," and Professor Briggs on "The Significance of Silent Reading in Education."

At the Educational Congress held at Harrisburg, November 17–22, by the State of Pennsylvania, the following members of the Teachers College Faculty spoke: Professors Bagley, Briggs, Gambrill, Smith, Strayer, and Wood, and Misses Carney and Carroll. Committees were appointed to devise means for putting into effect the recommendations made.

At the seventieth annual meeting of the Pennsylvania State Educational Association, which met at Philadelphia December 29–31, the following members of the Teachers College Faculty spoke: Professors Briggs and Kilpatrick and Miss Carney.

Professor Kelley gave two lectures at the New York State Teachers Association, November 25–28, one before the Modern Language Association upon "Diagnosing Language Ability," and one before the Section for the Study of Retarded Children upon "The National Research Council Tests for the Examination of Elementary School Children."

TEXTILES AND CLOTHING

Professor Fales has returned from the Orient where she has been for nine months. She has brought back many rare articles of oriental costume which have added very much interest and value to her lectures on costume. Miss Fales contributed an article on "American Textile Manufacture" to the *Millard's Review*, published in Shanghai.

A new course is being offered on the making of children's clothes. The course is given because of a special request made by public school teachers of New York City and New Jersey. Miss Laura I. Baldt is the instructor and the finished clothing is attracting much attention.

Miss Ruth Wilmot lectured at the Museum of Natural History, February 22, on "Fundamental Art Principles Applied to Costume."

The department has a permanent exhibition of renovated clothing which is being sent over the United States to home economics schools and colleges. To the present time this exhibition has been to the universities of Nevada, Montana, Virginia, and to Cornell University. It is loaned without charge as the department's contribution to the Government's Thrift Campaign.

Mrs. Tobey and Miss Baldt have been attending farmers' institutes and home demonstration agents' conferences. They have been demonstrating clothing helps for home workers. A report from the University of North Carolina says that since a recent millinery lesson there, all the women of North Carolina are making their own hats.

HORACE MANN SCHOOL

Professor Henry C. Pearson, principal of the Horace Mann School, addressed the faculty of the Friends' School of Philadelphia on September 19, taking as his subject "Silent Reading." During the month of November, Professor Pearson visited the schools of Dayton, St. Louis, Chicago, and Kalamazoo. At Dayton he was the guest of the Dayton Teachers College Club and spoke upon the recent developments at the College. While at Dayton, Professor Pearson delivered two addresses before the Teachers' Institute upon the "Teaching of Silent Reading" and the "Teaching of Spelling."

Mr. Charles W. Hunt, vice-principal of the Horace Mann School, is giving a course of lectures before the teachers of Yonkers, N. Y.

Mr. Roy W. Hatch, instructor in history and civics in the Horace Mann School, has just concluded a series of lectures before the teachers of Trenton, N. J., upon "The Training for Citizenship."

Miss Evelyn Carroll, teacher of the special class in the Horace Mann School, spoke on "The Education of Very Exceptional Children" before the psychological section of the State Teachers' Conference at Harrisburg, Pa., on November 21.

On October 9, Miss Agnes Burke, teacher of a first grade in the Horace Mann School, addressed the State Teachers Association at Montpelier, Vt., on "Newer Ideas in the Education of Young Children"; on November 21 and 22 she spoke before the Kindergarten Association of Springfield, Mass., and on December 5 and 6 before the teachers of Holyoke on "Project Work."

Miss Marguerite Smith, a teacher in the Horace Mann School, was elected to represent the nineteenth Manhattan assembly district in the New York Legislature. Miss Smith, who is not yet thirty years of age, ran on the Republican ticket, and won over her Tammany opponent by a substantial margin.

THE ADMINISTRATION CLUB

The first regular meeting of the Administration Club was held on Tuesday, October 28. An address was given by Colonel Leonard P. Ayres on the subject of "The Peace Treaty and Education." Colonel Ayres served during the war as Chief Statistical Officer of the Army, and later went to Paris with the President as

Chief Statistical Officer of the American Commission to Negotiate Peace. In his talk, Colonel Ayres described the inside workings of the peace negotiations, and told of the impetus which had been given to education as a result of America's war experiences.

On November 12 the club met at the home of Professor Strayer. For purposes of discussion, the club resolved itself into a meeting of the school board of the hypothetical city of Acheron. Acheron was confronted by the problem of a teachers' union in virulent form, and desired to choose a new superintendent to meet the situation. Five of the members of the Administration Club played the parts of members of the school board, while other members applied for the position of superintendent, describing the steps they would take to meet the situation the city was facing.

At the next meeting of the club on December 9, it was announced that all of the members of the club had been elected superintendents of Acheron because of the excellent solution of the city's problems they had presented at the previous meeting. Now a new problem had arisen. A school survey was proposed, and the superintendent, in multiple personality, was asked to discuss whether one should be made, and if so, how and by whom. At the close of the meeting, it was unanimously decided by the school board that the city should have a school survey, to be undertaken immediately. A committee was appointed to secure experts to do the work.

The membership of the club is now past the 100 mark, and is rapidly going up. A public meeting will be held early this month.

THE SECONDARY CLUB

The first meeting of the Secondary Club was held on the Palisades on October 25. Dr. Elbert K. Fretwell led in campfire songs and a get-acquainted program. A barbecue supper was enjoyed on the river bank.

At the second meeting, on November 6, in Milbank Chapel, Dean Russell spoke on "Teaching as a Fine Art." On December 11 the club held a Christmas frolic in the Kindergarten room.

The officers for this year are: President, Mr. F. L. Stetson; vice-president, Miss Edith Barnard; secretary, Miss May Flint; treasurer, Mr. John Rufi; chairmen of committees, Mr. Hickox, social; Miss Mabel Dunlap, refreshments; Mr. John Rufi, membership; Mr. F. L. Stetson, program.

ALUMNI ACTIVITIES

ALL ALUMNI SHOULD REPORT

The Bureau of Educational Service is organized with the definite purpose of keeping in close touch with those who have gone out from Teachers College. An effort is made to keep a complete record of the professional careers and present addresses of former students. This information cannot be obtained unless the alumni constantly furnish fresh information regarding their changes of address and work. If you have not, during the past year, informed the Secretary or the Recorder of your present address, please stop at once and send a note to the Director of the Bureau of Educational Service at Teachers College, telling what you are doing at present and where you may be addressed. Several important notices and bulletins should have reached you recently, and if you have failed to receive them, it is probably because of the inadequate record of your address at the College.

Teachers College has been called upon during the present year for an unusually large number of candidates for educational positions which it has been unable to fill. Graduates should remember that at the present time the School of Education is made up almost entirely of college graduates who have had experience in teaching and are qualifying for supervisory and administrative positions. It is almost impossible for a board of education or the principal of a school to obtain an ordinary elementary school teacher from Teachers College, for the reason that such people do not exist here. Occasionally, by offering a salary which is equivalent to that paid for supervision, a candidate may be persuaded to postpone supervisory work and to take an elementary teaching position.

The College is particularly anxious to encourage the organization of local Teachers College alumni clubs. The following reports from a few of the clubs already organized indicate some of the advantages of these clubs. If assistance is needed in the organization of such alumni clubs, the files of the Bureau of Educational Service are available for making up mailing lists, and any other possible service will be gladly rendered.

TEACHERS COLLEGE CLUB OF DAYTON

On November 14 a dinner was arranged by the Dayton Teachers College Club in honor of Professor Henry Carr Pearson, of the Horace Mann School, Teachers College, who was in Dayton to address the public school teachers at one of their institutes. About thirty-five Teachers College graduates were present, and informal addresses were given by seven of the leading members of the club. Professor Pearson, who was the chief speaker, emphasized particularly the recent developments of the College, especially the extent to which the College has already attained a national and international position in the educational work of the world. The Teachers College Club at Dayton represents the most alert and progressive teachers of that vicinity and, like all other Teachers College clubs, is making its influence felt in its community.

TEACHERS COLLEGE CLUB OF MINNESOTA

The annual dinner and business meeting of the Minnesota Teachers College Club was held on November 7 at the Plaza Hotel, Minneapolis, Minn. Over fifty members were present, including Superintendent Jackson of Minneapolis, Superintendent Hoke of Duluth, Professors Swift and Finney of the University of Minnesota, and a number of the faculty members of the normal schools of the state. Dr. David Snedden was the guest of honor. At the business meeting, the following were elected officers for the coming year: President, Miss Zada White, Minneapolis; vice-president, Miss Anna E. Shelland, St. Paul; secretary-treasurer, Miss Adeline Riedell, 3242 2nd Avenue, South Minneapolis.

MONTANA ALUMNI MEET

The first annual Teachers College luncheon was held in Helena November 24 at the time of the State Teachers Association meeting. Dr. William T. Foster, president of Reed College, was honorary guest. Superintendent R. J. Cunningham of Bozeman, Montana, acted as toastmaster. Thirty-five former students of

Teachers College were present. A permanent organization was started, with Superintendent D. S. Williams of Glasgow, Montana, as president.

TEACHERS COLLEGE CLUB OF PHILADELPHIA

The Teachers College Club of Philadelphia has this year thirty-five active members, and has held two meetings. At the May meeting Dr. Arthur Jones, of the University of Pennsylvania, gave a splendid talk on "Vocational Guidance in Public Schools." At this meeting a program committee was appointed by the president of the club to arrange the meetings for the year. Miss Mary L. Neer, Camden, N. J., is the chairman, and the members are: Miss Clare M. Bashore, Harrisburg; Miss Alice M. Cruice, Philadelphia; Miss Helen A. Field, Oak Lane; Dr. LeRoy King, University of Pennsylvania; and Miss Anna M. Snyder, Philadelphia.

At the November meeting, Dr. J. Lynn Barnard, of the Philadelphia Normal School, gave an interesting address on "Twelve Years' Course of Training in Citizenship." Miss Anna M. Snyder, of the South Philadelphia High School for Girls, gave a five-minute talk on "The Work at the Summer Session at Columbia in 1919." The program committee is planning an evening meeting for January, at which a large attendance is expected. The club unanimously nominated Dr. Frank P. Graves, of the University of Pennsylvania, as alumni trustee for the coming year.

The officers of the club are: President, Dr. Frank P. Graves; vice-president, Miss Constance Pendleton, B.S., '10; secretary, Miss Emma M. Haigh, B.S., '09; executive committee, officers of the club, Miss Margaret C. Embry, B.S., '15, and Dr. Arthur J. Jones.

VIRGINIA TEACHERS COLLEGE CLUB

On Thanksgiving Day, during the Virginia Educational Conference, the Virginia Teachers College Club gave its annual dinner at the University Club. There were sixty members present from all parts of the state. Miss Carney, of Teachers College, gave a most interesting and delightful report of the changes and plans at Teachers College.

New officers were elected: President, Mr. R. C. Bowton, of Clifton Forge; secretary-treasurer, Mr. W. L. Prince, state supervisor of high schools, Richmond, Virginia.

The gathering was presided over by the retiring president, Miss Rachel E. Gregg, formerly of Harrisonburg Normal School, but now of the State Department of Education. Others present were Miss Julia Abbott, Miss Pauline Williamson, Miss Sarah Withers, Miss Marion Hanckel, Miss Mamie Rohr, Dr. Mary Brydon, Miss Kate Anthony, and Mr. W. R. Bowers.

WISCONSIN TEACHERS COLLEGE CLUB

The Wisconsin Teachers College Alumni Club, though not as completely organized as might be desired, is very much alive. Get-together meetings are held at all general educational gatherings. A breakfast at the Hotel Wisconsin, Milwaukee, at the time of the State Teachers Association meeting in November was well attended. Dr. Strayer's presence made the occasion one of the most spirited reunions which have been held. His stirring accounts of recent changes in courses and practices made everyone feel that Teachers College is indeed "leading on."

NEW ALUMNI ASSOCIATION OFFICERS

At a recent meeting of the executive committee of the Teachers College Alumni Association, Dr. Edward H. Reisner, assistant professor of education, was elected member at large of the executive committee and Miss Alice E. Conway, instructor in household arts, was appointed to fill out the unexpired term of Miss Margaret Becker as corresponding secretary. Miss Becker resigned to move to California. The members of the Alumni Association are asked to vote in January on the official ballot for an alumni trustee and four officers of the Alumni Association. The nominees are: Alumni trustee, Dr. Carter Alexander, Dr. Frank P. Graves; first vice-president, Miss Wilhelmina Spohr; second vice-president, Mr. J. Cayce Morrison, Mr. H. H. Stewart; treasurer, Dr. M. R. Trabue; recording secretary, Miss Ethel C. Bratton.

ALUMNI CONFERENCES

The executive committee of the Alumni Association has prepared for the Alumni Conferences to be held on Thursday, Friday, and Saturday, February 19–21, 1920, a program which is in many ways more complete and extensive than any that have been held at the College. The Nursing and Health Section is holding a particularly extended series of meetings in connection with the Twentieth Anniversary of the Nursing Department. In order to relieve congestion at the Saturday morning conferences, arrangements have been made for the administrative, executive, and supervisory groups to meet on Friday, February 20, leaving Saturday morning free for conferences on instruction in the elementary and high school fields.

The section for administrators and college teachers of education will discuss the problem of "Teacher Participation in School Administration" at 9:30 on Friday morning. Superintendents of schools from Oakland, Calif., to Boston, Mass., and from intermediate cities will appear on this program. This indicates to some extent the wide range of talent and interest which will be represented. In the afternoon, attention will be centered in the Normal School Conference and the conference on "The Professional Training of High School Principals." The Elementary School Section on Saturday morning will meet with the Lower Primary Section to hear a discussion on "Initiative in Industry" by one of the most successful organizers of industrial work, and will then proceed to a discussion of the "Application to Education of the Experience of Industry." Professor McMurry will then continue the discussion by presenting "A Teaching Technique Adjusted to the Project Method."

There will be three general conferences, the first on Friday afternoon to be addressed by representatives of the School of Education and of the School of Practical Arts; the second on Friday night to be addressed by President Vincent and by Professor Thorndike; and the third on Saturday afternoon to be addressed by the Alumni Trustee and Dean Russell. A general luncheon will be held Saturday noon for those sections of the Alumni Conferences not provided with a special luncheon.

There is every indication that this series of conferences will be the most significant professionally that Teachers College has yet

attempted. All former students who can possibly arrange to do so, should plan to come to Teachers College for these meetings whether they intend to go to the Superintendence Meeting in Cleveland the following week or not.

TEACHERS COLLEGE FESTIVAL

The seventh annual Teachers College Festival, "The Spirit of the East" will, as in previous years, be given in connection with the Alumni Conferences on Thursday evening, February 19, and on Saturday evening, February 21, at eight o'clock in the Thompson gymnasium. It will be an interpretation through pantomime, music and dancing of the essential contribution of the Orient to the West. The program will include the following:

1. Three episodes by foreign students in native costumes, to the accompaniment of oriental music and including interpretative dancing.
2. A romantic pantomime of the Orient, contributed by the Junior class of the School of Practical Arts, with accompanying music and interpretative dances, such as the Wave Dance, the Pin Dance, the Lantern Dance, and the Toy Dance performed by the children of the Horace Mann School.
3. The decking of the hall will this year have an added feature in the presentation of the Academic Staff of Office by the president of the Senior Class and the gift of the Stole to the president of the Student Council.

The Teachers College Festival is made possible by the coöperative efforts of students and faculty. Competitive plans from the various classes of the School of Practical Arts were submitted to the Student Council and a committee of faculty advisors. The Junior plan for the Festival was accepted. The student-faculty coöperative committee consists of Miss Northrup, of the fine arts department, as chairman appointed by the Student Council, Miss Colby, of the physical education department, and Miss Cook, of the English department, with Miss Mildred Jordan as acting student manager appointed by the Student Council, and student representatives from various departments. This committee has the general direction of the Festival. Subcommittees of business management were also appointed by the council under the direction of Mr. Thiele.

SCHOOLS OF SIBERIA

Dr. William F. Russell, dean of education at the University of Iowa, was in 1918 appointed by the United States Government as commissioner to Russia to determine how best the United States might assist Russia in exerting through her schools a steadying influence, and to study first hand the educational problems in Siberia. The result of his investigation, *The Schools of Siberia* (Lippincott), contains interesting and illuminating data collected during the months he spent in Siberia as director of the Educational System of the Russian Division.